

HARRIS

AM  
1932  
har  
c2



# BOSTON UNIVERSITY CHENERY LIBRARY

## Regulations for the Use of Manuscript Theses

Unpublished theses submitted for the Master's and Doctor's degrees and deposited in the Boston University Chenery Library are open for inspection, but are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but passages may be copied only with the permission of the author, and proper credit must be given in subsequent written or published work. Extensive copying or publication of the thesis in whole or in part requires also the consent of the Dean of the Graduate School of Boston University.

This thesis by ..... has been used by the following persons, whose signatures attest their acceptance of the above restrictions.

A library which borrows this thesis for use by its patrons is expected to secure the signature of each user.

---

NAME and ADDRESS of USER

BORROWING LIBRARY      DATE

9.15.1932  
BOSTON UNIVERSITY

GRADUATE SCHOOL

Thesis

THE COLLECTED VASCULAR FLORA OF  
GRAFTON COUNTY, NEW HAMPSHIRE

Submitted by

Stuart K. Harris

(A. B., Boston University, 1930)

In partial fulfilment of requirements for  
the degree of Master of Arts

1932

BOSTON UNIVERSITY  
COLLEGE OF LIBERAL ARTS  
LIBRARY



ser.

48503

MADE IN U.S.A.  
BOSTON  
MASS.  
U.S.A.  
BOSTON  
MASS.  
U.S.A.



upstairs  
~~876744~~  
~~B.D.~~  
A.M. 1932  
har  
c. 2

TABLE OF CONTENTS

Introduction	Page 1
Physiography	
Location and area	7
Hydrography	8
Orography	12
Climate	15
Soils	20
List of plants collected from county	24
Statistical Summary	208
Collections by towns	213
Collectors and dates of visits	215
Floristic conditions	218
Conclusion	232
Bibliography of revisions to Gray's Manual	237
General bibliography	250



SEP 1 1952

TABLE 1. SUMMARY

1	Topography
2	Vegetation
3	Soils and rocks
4	Hydrology
5	Geology
6	Climate
7	Flora
8	List of names collected from natives
9	Statistical Summary
10	References to books
11	Comments and notes of staff
12	Physical conditions
13	Location
14	Biological notes (to be added later)
15	General bibliography



## LIST OF FIGURES

Drainage Basins	Page 11
Annual Isotherms	17
Summer and Winter Temperatures	18
Rainfall	19
Key to Soil Map	22
Soil Map	23



LIST OF PRIZES

11	Prize for the best
12	Prize for the best
13	Prize for the best
14	Prize for the best
15	Prize for the best
16	Prize for the best



## INTRODUCTION

A local flora consists of a list of the plants found growing without cultivation in a given locality. The ideal local flora would include all the plants growing wild within its scope, but unless the area is very limited in size this state of perfection is probably never attained. In fact the flora of a region is never in a static condition, but is constantly changing, new plants being introduced from other parts of the world and native plants being crowded out and exterminated by man or by the more vigorous introduced weeds.

In its most restricted form the local flora consists merely of a list of the plants found with no annotations. Unless the area studied is very limited this type of flora is only of slight value to the serious botanist. To be really useful it should record under each species cited a list of the exact localities in which the plant has been found, the collector, the date collected, and the herbarium in which the specimen has been deposited. This information will enable any botanist to locate the material if he wishes to check the correctness of the determination of any rare or questionable species. Various other notes will enhance the value of the work, such as the kind of habitat in which the plant was found, the plants with which it was associated, the time of flowering and of fruiting of the plant, the distribution of the plant within the range of the flora and its general distribution thruout the world, the common name of the plant, and any of its economic uses. Keys to the more difficult genera may also prove



Introduction

The first of the three main parts of the book is devoted to a general survey of the history of the subject.

The second part is devoted to a detailed study of the various methods of investigation.

The third part is devoted to a study of the various applications of the methods of investigation.

The fourth part is devoted to a study of the various results of the methods of investigation.

The fifth part is devoted to a study of the various conclusions of the methods of investigation.

The sixth part is devoted to a study of the various criticisms of the methods of investigation.

The seventh part is devoted to a study of the various suggestions of the methods of investigation.

The eighth part is devoted to a study of the various conclusions of the methods of investigation.

The ninth part is devoted to a study of the various criticisms of the methods of investigation.

The tenth part is devoted to a study of the various suggestions of the methods of investigation.

The eleventh part is devoted to a study of the various conclusions of the methods of investigation.

The twelfth part is devoted to a study of the various criticisms of the methods of investigation.

The thirteenth part is devoted to a study of the various suggestions of the methods of investigation.

The fourteenth part is devoted to a study of the various conclusions of the methods of investigation.

The fifteenth part is devoted to a study of the various criticisms of the methods of investigation.

The sixteenth part is devoted to a study of the various suggestions of the methods of investigation.

The seventeenth part is devoted to a study of the various conclusions of the methods of investigation.

The eighteenth part is devoted to a study of the various criticisms of the methods of investigation.

The nineteenth part is devoted to a study of the various suggestions of the methods of investigation.

The twentieth part is devoted to a study of the various conclusions of the methods of investigation.

The twenty-first part is devoted to a study of the various criticisms of the methods of investigation.

The twenty-second part is devoted to a study of the various suggestions of the methods of investigation.

The twenty-third part is devoted to a study of the various conclusions of the methods of investigation.

The twenty-fourth part is devoted to a study of the various criticisms of the methods of investigation.

The twenty-fifth part is devoted to a study of the various suggestions of the methods of investigation.



helpful if the number of species involved is much less than the number treated by the manual which covers that part of the country,

The size of the area studied varies greatly. A flora of one's own back yard would prove interesting. The boundaries may be natural, political, or artificial. An island, or the drainage basin of some lake or river are good examples of the type with natural boundaries. Harold St. John's Sable Island, with a Catalogue of Its Vascular Plants and W. J. Tiegard and L. J. James's Flora of the Cayuga Lake Basin, New York are both works of this type. More commonly a definite political area such as a town, county, state, or even country is studied. Miss Mira Bartlett's Partial List of the Wild Flowers Found Growing in the Thirty-two Square Miles Comprised in the City of Haverhill is an example of a town flora, A. J. Pease's Vascular Flora of Coos County, New Hampshire of a county flora, and I. Tidestrom's Flora of Utah and Nevada of a state flora. W. J. Jessup's Flora and Fauna within Thirty Miles of Hanover, N.H. has a purely artificial limit which includes parts of two states, several counties, and numerous towns. The scope of the present work falls into the category of the political area, being the flora of one county in the state of New Hampshire.

A great amount of work must be done before a local flora is ready to be published. The botanist must make extensive collections in the area which he is studying. If the territory is small, one may be able to visit practically all the country included. If a county or a state is being worked, however, it is impossible to collect in every nook and corner. A definite plan of work must be arranged. By making a thorough study <sup>of the</sup> available topographical maps of the district, one should be able to plot out certain types of habitats which will be more or less characteristic of the region





as a whole. Then one can visit these spots and collect intensively in these particular areas. If these places have been picked with discrimination, one should in time derive a good generalized idea of the plants found within the range one's flora. It is well to attack each individual town in this manner in a county flora in order to obtain sufficient evidence on which to base one's ideas of the distribution of the plant thru the district.

In order to include as many introduced species as possible it is well to visit certain rather unusual types of habitats. Railroads have long been known to carry seeds of plants for miles and thus railroad tracks, embankments, and freight yards will often provide new and interesting records. The alluvial flood plains of rivers are another source of novelties. Along the seacoast the waste land about docks is worth visiting. The ground about mills which use raw materials from other parts of the world are almost sure to yield up their share, woolen mills being particularly fruitful in this respect. A search around large poultry farms will nearly always produce some exotic plants introduced in the poultry feed. In conclusion, the town dumps are always worthy of a careful inspection for introduced rarities.

As critical determinations are very difficult to make in the field, specimens of each species should be collected, pressed, and mounted so that accurate identifications may be made at some future time where adequate material for comparison may be studied. Additional flowers and fruit when obtainable should be collected and placed in pockets on the sheets with the plants. During collection trips a field notebook





should be kept in which is recorded the exact locality in which the plant was collected, the date, the collector, the habitat, plants growing nearby, color of blossom, and any other information which might be of assistance when attempting to identify the specimen.. Then the plant is placed in the press to dry, this information should be transferred to the paper in which the plant is being dried. Thus the information and the plant are kept together. Many collectors place only a number on the sheet in which the plant is being dried and a corresponding number beside the information in the book. If the notebook is lost, all the information is gone and the plants are worthless. For this reason it seems far better to place the data directly upon the sheet.

Many plants should be collected twice during the year, once when they are in flower and again when the fruit have matured. Some plants such as the blackberries must be collected on two successive years in order to obtain the first and second year stalks. Specimens should be taken from the identical plant which may be marked by a tag or by some sign at the time of the first collection. The herbarium becomes much more valuable for reference if specimens of as many as possible of the phases in the life of the plant are collected. Thus winter buds, winter basal rosettes, flowers, fruit, and seed are all important. Means of vegetative reproduction such as bulbs, stolons, tubers, corms, etc. should be shown whenever possible.

The herbarium should be kept during the period in which the flora is being prepared. After the publication of the list the collection may be disposed of as one sees fit. It seems wise however to donate all the specimens cited to some large herbarium where the sheets are readily available for study and verification by any student who wishes to refer to them.





One's own collections should not be relied on entirely in making up the local flora. Other botanists for the past hundred years have probably collected more or less extensively in the same district and proper account should be taken of their work. It may be difficult to trace all such collections but one should examine the sheets in nearby herbariums for records. For example, in New England a fair idea of the work of other collectors may be obtained if one goes thru the collections at the Gray Herbarium and the New England Botanical Club at the Gray Gardens in Cambridge, and the herbarium at the Boston Society of Natural History. Colleges and local natural history societies often have collections of plants from the immediate vicinity.

When one feels that one has collected all the species one can find in the district and has located as many as possible of the sheets of other collectors, the actual writing of the list may be commenced. It is well to keep one's records in a card catalogue arranged in phylogenetic order, in which case the bulk of the writing will consist of copying the information collected on the cards. The flora should commence with an introduction which describes the political and natural divisions within the area, the important physiographic features, soil conditions, and temperature and rainfall records. A chapter on plant associations in the region will also be valuable.

This paper on the vascular plants of Grafton County, New Hampshire, includes only those plants which have already been collected in the county by botanists other than the author. The herbaria of the Gray Herbarium, the New England Botanical Club, the Boston Society of





Natural History, and the Appalachian Mountain Club were investigated during the school year of 1930-31, many thousands of sheets having been examined in the search. In addition numerous records are included from Jesup's (1.) Flora and Fauna within Thirty Miles of Henderson, W.V. But as the author has seen only a few of Jesup's sheets such reports are specifically marked as not having been verified. A few records from other sources have also been included, but in every case such reports are noted as not having been verified by sheets.





## PHYSIOGRAPHY

### I. Location and area

Grafton County is located in the northwestern portion of New Hampshire. It is bounded on the west by the Connecticut River, on the north by Coos County, on the east by Coos, Carroll, and Belknap Counties, and on the south by Merrimack and Sullivan Counties. The county reaches its most northerly limit in Littleton (lat. 44° 24'), its most southern in Enfield and Grafton (lat. 43° 32'), its most eastern in Livermore (long. 71° 20'), and its most western in Lebanon (long. 72° 20'). The area of the county is 976,700 acres or about 1400 square miles.

The county is divided into 41 townships and grants which are arranged starting at the north and working from east to west in the following order: Littleton, Bethlehem, Lisbon, Lynd, Concord, Franconia, Livermore, Lincoln, Easton, Landaff, Beth, Portland, Lond and Leander Gosbury, Waterville, Raymond Grant, Thornton, Woodstock, Benton, Haverhill, Ellsworth, Warren, Piermont, Soupton, Rumney, Westworth, Orford, Holderness, Plymouth, Boston, Rochester, Lyme, Ireland, Ridgewater, Lebanon, Bristol, Alexandria, France, Canaan, Hanover, Grafton, Enfield, and Lebanon.





## 2. Topography.

The greater part of the county is drained by the Connecticut and the Pequonnock Rivers or their tributaries. A little of the extreme western portion of the county is in the drainage of the Tago River. Mount Field situated in the form of a tableland forms a triple divide between these three rivers thus sharing with Mount Washington the distinction of being triple divides in the White Mountains. (1.)

The watershed between the Connecticut and the Pequonnock Rivers enters the county on Mount Field and passes nearly east over the Twin Mountains and Mount Garfield to Mount Lafayette and Cannon Mountain. It then turns to the southeast passing from Mount Pleasant close to the Woodstock Benton boundary to Mount Moosilauke. From Moosilauke it descends to Oliverian Notch in Warren and up over the hills in Warren to Ore Hill, then across the southeast corner of Piermont to Cate Mountain and thence to Mount Cardigan in Orange. From Cardigan it passes over Orange summit and then nearly south thru Crafton. The Marriack River watershed also starts on Mount Field, and then passes nearly south over the summits of Willey, Carrigan, Tripysack, Black, and Sandwich Mountains, and thru the eastern portion of Lisleville. (2.)

The Connecticut River passes thru the county for a distance of 57 miles, during which it drops from 674 to 339 feet above sea level, a descent of 335 feet. The principal tributaries of the Connecticut River in Crafton County are the lower Pequonnock River in Beth, Oliverian

1. Pease 1924 Proc. Boston Soc. Nat. Hist. 37 43. p.49.

2. Hitchcock Geol. N.H. 1. p. 299-302.





Brook in Haverhill, Eastmans Brook in Piermont, and the Madocum River in Lebanon. Of these the largest and most important is the Lower Ammonoosuc which, having its heads in various small streams about the height of land in Crawford Patch, drains at least parts of the towns of Bethlehem, Livermore, Franconia, Littleton, Litchon, Lydon, Marion, Landeff, and Beth. Oliverian Brook drains parts of Kenton and Warren and a large part of Haverhill. Eastmans Brook is restricted to Piermont and the Madocum River drains Lebanon, Enfield, and Lebanon. (1.)

The Pemigewasset River, running as it does thru the center of the county, drains a large part of the area being studied. Its source is Profile Lake in Franconia, 1747 feet above sea level. It runs thru the towns of Lincoln, Woodstock, Thornton, Sutton, Plymouth, Walderness, Ashland, Bridgewater, and Bristol. The more important tributaries of the Pemigewasset River are the East Branch in Woodstock, the Mad and Beebe Rivers in Thornton, the Peter River in Plymouth, the Quass River in Ashland, and the Newfound and Smiths Rivers in Bristol. The East Branch <sup>drains</sup> that great area known as the Pemigewasset Wilderness which is bounded on the north by the Ammonoosuc watershed, on the east by the Soap watershed, on the south by the Sandwich Mountains, and on the west by the Franconia Mountains. This region is unexcultivated except for the lumber camps of the Parker Young Company. Parts of the towns of Waterville, Livermore, Lincoln, Franconia, and Bethlehem are included in this drainage basin. The Mad River drains the towns of Hitchcock. Geol. N. S. 1. p. 302-305.





Waterbury and Canton while the Lake River rises over the Carroll County line in Sandwich and flows into Canton. The Lake River has numerous branches which drain parts of Woodstock, Denton, Milford, Warren, Canton, Sumner, Bennington, Wford, Plymouth, Winton, and Northampton. The Green River is a short stream connecting Squam Lake with the Bennington River and sending a branch into Holderness. The Newfound River connects Newfound Lake with the Bennington and the Smith River forms a part of the southwest boundary of Bristol. [1.]

The Lake River has only two tributaries of any size in Shelton County. These are the Green River in Livermore and the headwaters of the Lake River in Waterbury. [2.]

Shelton County is well provided with lakes and ponds. The largest body of water is Squam Lake with an area of 15.6 square miles, most of which is located in the town of Holderness in the southeast corner of the county. Next in size is Newfound Lake in Shelton, Bennington, Bristol, and Alexandria with an area of 9 square miles. Newfound Lake in Shelton has an area of 1.5 square miles, Little Pond Lake in Holderness and Ashland .25 square miles, and Lower Lake Pond in Wford, Lower Lake Pond in Bennington, Winton Lake in Sumner, the Great Pond in Livermore, Lake Variton in Piermont, Morris Pond in Northampton, Lake Pond in Lanaan, and Crystal Lake in Shelton have areas varying from .25 to .5 square miles. A total of 117 ponds are listed on the map of Shelton County in the atlas which supplements Hitchcock's Geology of New Hampshire. Most of these are very small, however, being at the most only a few acres in extent. [3.]

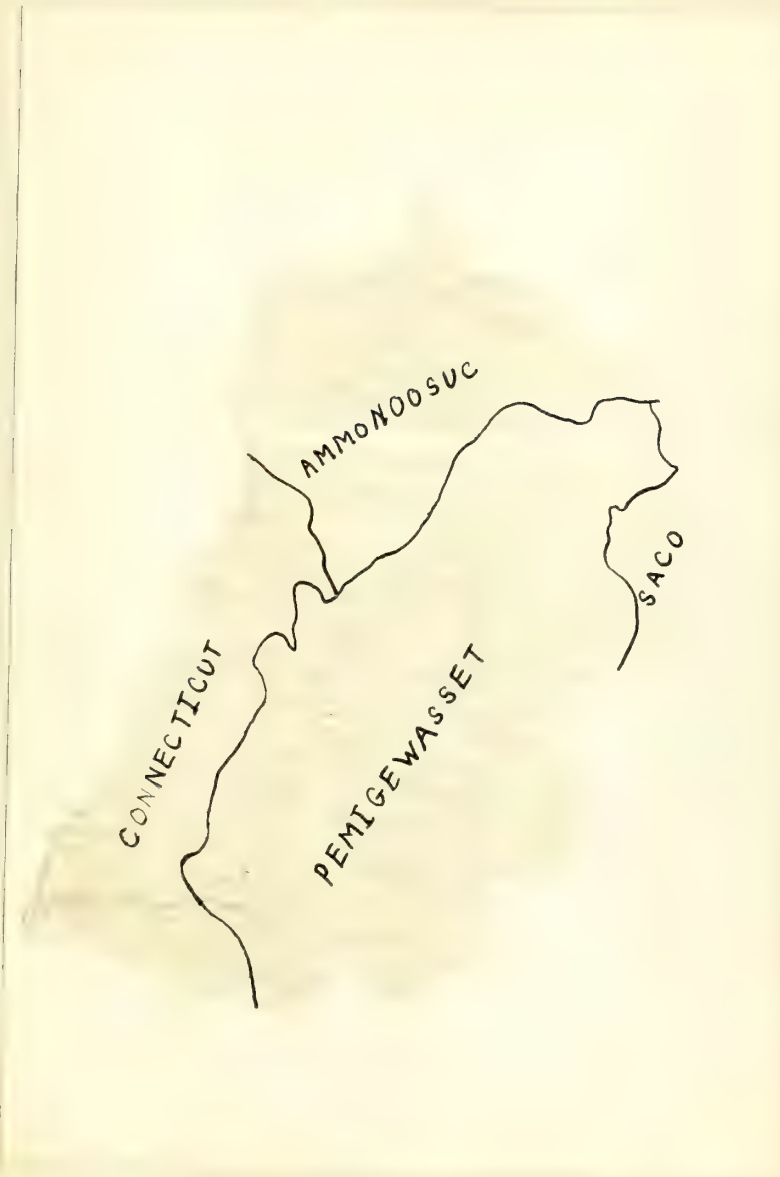
1. Hitchcock Geol.N.H. 1. p. 306-309.

2. " " " 1. p. 311-312.

3. " " " 1. p. 325, 328-329.







Drainage Basins





### 3. Orography.

The elevation of the land above sea level varies in Grafton County from 339 feet at the Connecticut River in Lebanon and 358 feet on the Pemigewasset River at Bristol to 5269 feet at the summit of Mount Lafayette. The average elevation of the populated portion of the county is about 800 feet while a large part of the forested portions are above 1500 feet. All the county is more or less mountainous, there being some point with an elevation of at least 1500 feet in every town. The mountains can be grouped into fairly definite ranges.

1. The mountains situated between the upper part of the Connecticut River and the lower Ammonoosuc River. This group starts with Mount Misery (1726) on the boundary line between Dalton and Littleton and continues with Palmer Hill, Wheeler Hill, and Blueberry Mountain in Littleton, Bald Hill in Lisbon, Gordon Hill in Lyman, and Gardner Mountain in Monroe and Lyman. All of these peaks are rather low, Gardner Mountain, the highest, being only a little over 2300 feet.
2. The Landaff, Easton, Lisbon group. This is another group of rather scattered and rather low mountains. It commences with Mount Agassiz (2394) in Bethlehem and includes Sugar Hill (1334), Ore Hill, Bronson Hill, and Pine Hill in Lisbon, Pole Hill and Cooley Hill in Easton, and Pond Hill, Green Mountain, Woody Ledge, and Cobble Hill in Landaff.
3. The Benton range. This is made up of Black Mountain, Sugar Loaf, and Hogsback in the town of Benton.
4. Isolated peaks near the Connecticut River. From Piermont to



Lebanon the mountains are scattered and are not arranged in definite groups or ranges. In this category are included Piermont Mountain in Piermont, Mount Aist and Sentinal Mountain in Warren, Cube Mountain (2927) in Orford, Marts Mountain in Lyme and Rochester, and Moose Mountain (2326) in Hanover.

5. Kinsman range. This takes in Cannon Mountain (4107) in Franconia, Mount Kinsman (4377) and Mount Pemigewasset (2516). This range makes up the west side of Franconia Notch and bears the familiar profile of the Old Man of the Mountain on Mount Cannon and Indian Head on Mount Pemigewasset.

6. Moosilauke range. The peak of Mount Moosilauke is in the town of Benton. Its elevation of 4811 makes it the highest peak in the county outside of the Franconia range. Mount Blue (4530) is a northern extension of Moosilauke. To the south the range includes Mount Waternose and Mount Cushman in Woodstock, Mount Hines and Black Hill in Ellsworth, and Mount Carr in Warren and Wentworth. Mount Atinson in Rumney is an offshoot of this range.

7. Cardigan range. Mount Cardigan (3200) is a bald rocky peak in Orange and Alexandria. Nearty are Baldhead Mountain and Kimball Hill in Groton.

8. Newfound Lake Mountains. Along the east side of Newfound Lake are several scattered peaks such as Plymouth Mountain in Plymouth, and Bridgewater Hill, Peaked Hill, and Sugar Hill in Bridgewater. Plymouth Mountain is the highest being 2300 feet.

9. Franconia range. The Franconia mountains start on the south with Whaleback (3799) and continue with Big Coolidge (2600) and Little Coolidge (2300), Flame (4340), and Liberty (4472) in Lincoln, and Little





Haystack, Lincoln (5098), and Lafayette (5269) in Franconia. All these peaks from Flume northward have bare and exposed summits. This is the highest range in the county, Mount Lafayette being the highest peak in the White Mountains outside of the Presidentials. A ridge extends to Mount Garfield (4519), a connecting link between the Franconia and the Twin ranges.

10. Twin and Zealand Ranges. This group is made up of North Twin (4733) and South Twin (4922) in Franconia, and Guyot (4589) and Bond (4709) in Livermore. From Mount Guyot, Zealand Ridge extends northeast to Zealand Notch. From this ridge the Little River Mountains continue northward into Bethlehem, ending in Mount Hale (4102). To the east of the Notch and from south to north are Willey (4260), Field (4355), Avalon (3432), Tom (4040), Echo (3000), and the Rosebrook Range, all in Bethlehem.

11. Livermore Mountains. The Livermore mountains form a chain extending from east to west in the town of Livermore starting on the east with Nancy (3810) and continuing with Anderson (3725), Lowell (3730), Carrigan (4647), Hancock (4430), Huntington (3730), and Hitchcock.

12. Thornton Gore Mountains. On the north side of Thornton Gore are Russell Mountain in Woodstock, Loon Mountain in Lincoln, and Black Mountain and Scar Ridge in Livermore.

13. Waterville Mountains. Between Waterville and Thornton Gore are Kancamagus (3700), Osceola (4352), Tecumseh (4008), and Fisher (3470) in Waterville, and Welch Mountain (2783) in Thornton.

14. Sandwich Range. This range includes Sandwich Dome (4071), Tripyramid (4189), Whiteface (4057), and Passaconaway (4116), all in Waterville.

15. Squam Mountains. These are Neetamoo (2546) and Morgan in Campton, and Mount Prospect (2072) in Holderness.

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF CHEMISTRY  
530 SOUTH EAST ASIAN AVENUE  
CHICAGO, ILLINOIS 60607

TO THE EDITOR:  
I am writing to you to inform you of the results of my research on the properties of the new material which I have discovered. This material has many unique properties and I believe it will be of great value to the scientific community. I have been working on this project for several months and I am very excited about the results. I have found that this material has a very high melting point and is very resistant to corrosion. It also has a very low coefficient of thermal expansion, which means that it will not expand or contract much when it is heated or cooled. These properties make it a very promising material for use in a wide variety of applications, including in the aerospace industry and in the construction of high-temperature engines.

I have also found that this material has a very high tensile strength, which means that it can withstand a great deal of stress without breaking. This is another very important property, as it makes the material suitable for use in structural applications. I have also found that the material is very easy to process, which is another advantage. I believe that this material will be of great value to the scientific community and I am very excited about the results of my research. I have been working on this project for several months and I am very excited about the results. I have found that this material has a very high melting point and is very resistant to corrosion. It also has a very low coefficient of thermal expansion, which means that it will not expand or contract much when it is heated or cooled. These properties make it a very promising material for use in a wide variety of applications, including in the aerospace industry and in the construction of high-temperature engines.

I have also found that this material has a very high tensile strength, which means that it can withstand a great deal of stress without breaking. This is another very important property, as it makes the material suitable for use in structural applications. I have also found that the material is very easy to process, which is another advantage. I believe that this material will be of great value to the scientific community and I am very excited about the results of my research. I have been working on this project for several months and I am very excited about the results. I have found that this material has a very high melting point and is very resistant to corrosion. It also has a very low coefficient of thermal expansion, which means that it will not expand or contract much when it is heated or cooled. These properties make it a very promising material for use in a wide variety of applications, including in the aerospace industry and in the construction of high-temperature engines.



## CLIMATE

The annual isotherm of 45 passes, according to Huntington, across the southeast portion of the county. To the west the isotherms become lower, the western third of the county having an isotherm of 41. The summits of Mount Lafayette and Mount Moosilauke have an annual isotherm estimated to be about 25. The average summer temperature of the greater part of the county is 65 while the winter average varies from 17 in the northwestern portion to 21 on the southeastern portion. Thus the temperature is sufficient in the county to permit the growth of most of the staple crop plants and the growth of forest plants and trees. The occurrence of late and early frosts however often causes damage to the more tender crops such as corn, beans, and squash.

Throughout the year the humidity at 8 A.M. averages about 75% saturated. This high humidity serves to conserve the moisture in the soil by reducing evaporation. The large amount of forested land in the county also has a marked effect upon the climate. The northern part of New Hampshire often has a bumper haycrop when the hay is burned and worthless from drought in the southern portion. This may be explained by the fact that the forests hold whatever precipitation falls upon them and release it gradually but steadily throughout the summer while the cultivated lands to the south are capable of retaining much less moisture and whatever precipitation falls upon it drains off rapidly



and is lost. The amount of water in the streams was probably much steadier in the past than it is at the present time due to the great amount of lumbering which has been done in the last fifty years. Many mills run by water power were found in the county then whereas the few mills now being operated have been forced to use steam power as the flow of water in the summer months is far from sufficient.

At least forty inches of rain falls during the year in all parts of the county, an amount sufficient for the raising of crops and for the growth of forest trees. A narrow strip along the western edge of Hanover, Lyme, Orford, and Piermont has forty inches as the average. A second strip just east of this and including about half of Lebanon and most of Hanover, Lyme, Piermont, and half of Waverhill has forty-one inches. The towns bordering Newfound Lake have forty-six, the heaviest rainfall in the state. Parts of Alexandria, Hebron, Plymouth, Ashland, and Holderness have forty four and the remainder of the county has forty two. The amount of rainfall upon the higher mountain summits in the county has never been measured but it seems probable that it would be in excess of that in the valleys.

Chittenden 1905 U.S. Dept. Agr., Bur. Forestry Bul. 55 p.13-14.

Hitchcock Geol. N.H. 1. p.122-129.

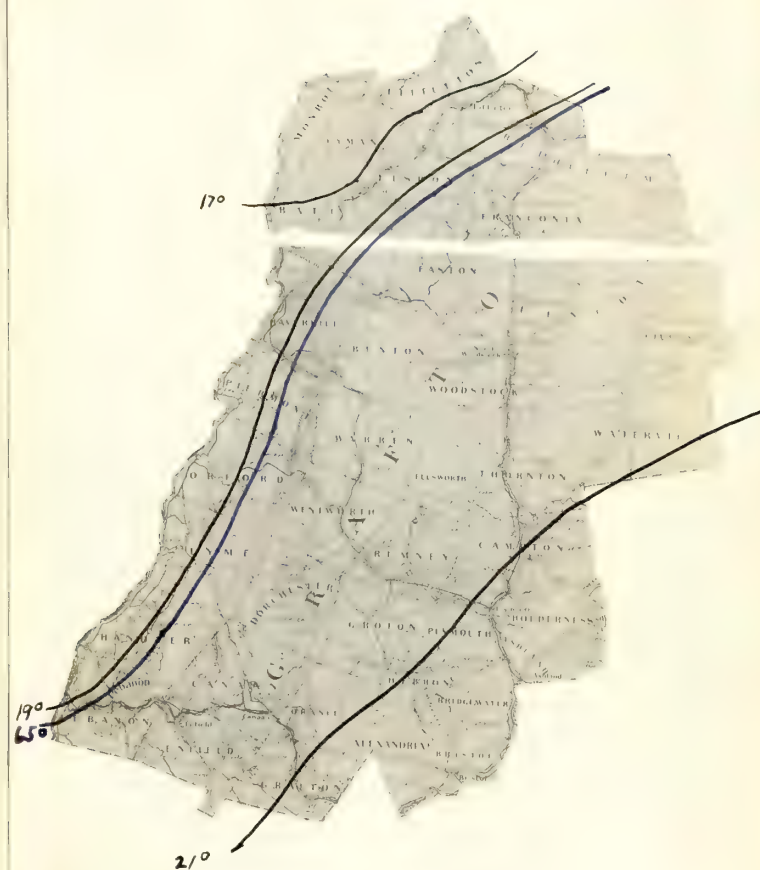












Average Summer Temperature in blue

Average Winter Temperature in black





Annual Rainfall





## SOILS

The character of the rock underlying the county is demonstrated upon the accompanying map. It will be noticed that while the arrangement of the different kinds is rather complex in many places, all of the rock is of a composition which produces an acid soil. Hence the plants from this county may be expected to be of a type which prefer an acid condition, or which will thrive in any kind of soil. Limestone is entirely absent from the county except for a few scattered spots in the towns along the Connecticut River, thus very few of the limestone plants may be expected. All of the county was covered by the Pleistocene glaciation except for a few spots on the Franconia Ridge which possibly may have been missed. This assumption is based on the presence of two very rare plants on these mountains. *Potentilla Robbinsiana* is restricted to the rocks of the summit of Mount Lincoln and a barren spot at the foot of the cliffs of Mount Monroe near the Lakes of the Clouds on Mount Washington. Its nearest relative is *P. frigida* of the high mountains of Europe. One might expect such a plant to spread into areas as favorable or even more favorable nearby but such is not the case. *P. Robbinsiana* has been known from Mount Washington for nearly a century but it has never been collected anywhere except the one barren and exposed spot, less than an acre in area, at the base of the cliffs of Mount Monroe. This failure to spread and occupy favorable locations nearby is characteristic of relic endemic plants, that is plants which form a last remnant of the ancient flora of a much earlier period. The relatively short time which has elapsed since the Pleistocene glaciation is not sufficient for such



a species to develop. *Geum Peckii* is not quite as restricted in its distribution being found in abundance above timber-line on the Presidential and Franconia Ranges but nowhere else in the world. Its nearest relative is *G. calthifolium* of the North Pacific region. The presence of these two plants in the White Mountains makes the student of plant distribution assume that possibly certain small areas in the White Mountains may have been sheltered in some way from the erosive action of the Pleistocene ice and that these two plants were able to survive in these localities while all of the rest of the species were destroyed under the grinding action of the ice. The valleys of the larger rivers have at many points broad intervaies with a rich alluvial soil and upon these intervaies most of the prosperous farms are found.

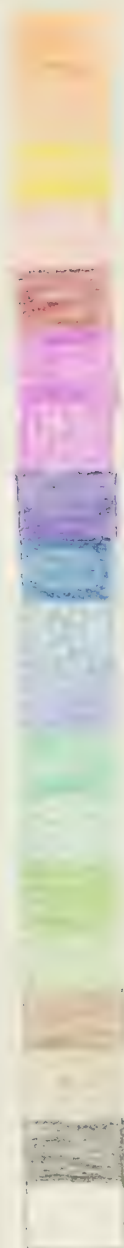
(For further information concerning the character of relic endemics see the Persistence of Plants in Unrelaciated Areas of Boreal America by M.L.Fernald which appeared in 1925 in the Memoirs of the American Academy of Science, Vol.XV, No.III.)





## KEY TO MAP OF SOILS

Albany granite  
 Bethlehem group  
 Modified drift  
 Clay slate, Cambrian  
 Quartzite  
 Kearsage andalusite group  
 Swift Water group  
 Porphyry and diorite  
 Montalban group  
 Staurolite mica schist  
 Porphyritic mica schist  
 Chicorus group  
 Lyman group  
 Franconia breccia  
 Lisbon group  
 Conway granite  
 Bethlehem gneiss  
 Lake Winnepesaukee gneiss  
 Mica schist with fibrolite







Soil Map





## COLLECTED FLORA OF GRAFTON COUNTY, NEW HAMPSHIRE

## DIVISION PTERIDOPHYTES

## ORDER FILICALES

## FAMILY POLYPODIACEAE

## POLYPODIUM (Tourn.) L. Polypody

*Polypodium virginianum* L. (*P. vulgare* of Manual, not L.)(#1.) Rocks,  
common.

Holderness	Fernald	1915	NE.
Plymouth	Fernald	1915	NE.
	Knowlton	1917	NE.
Hanover	Flint	1874	NE.
Bridgewater	Horner		NE.
Lebanon	Kennedy	1900	G.
	Blanchard, Fernald		
	Hunnewell	1920	NE.

## ADIANTUM (Tourn.) L. Maidenhair

*Adiantum pedatum* L. Rich moist woods

Warren	Williams	1907	G.
Holderness	Gunderson, Lowenstein	1914	NE.
Plymouth	Fernald	1915	NE.
Lebanon	Blanchard, Fernald		
	Hunnewell	1920	NE.



## PTERIDIUM Scop. Brake

*Pteridium latiusculum* (Desv.) Maxon (*Pteris aquilina* of Manual #1.)

Thickets and open hillsides.

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

## WOODWARDIA Sm. Chain Fern

*Woodwardia virginica* (L.) Sm.

Holderness	Reported by Svenson(#2.), have seen no specimen.
------------	--

## ASPLENIUM L. Spleenwort

*Asplenium Trichomanes* L.

Holderness	Svenson	1921	NE.
Hanover	Williams	1910	NE.

## ATHYRIUM Roth.

*Athyrium angustifolium* (Michx.) Milde. (*Asplenium angustifolium* of Manual 1.)

Hanover	Hitchcock Reported by Jesup(#4.), have seen no specimen.
---------	--

Enfield	1839	BS.
---------	------	-----

*Athyrium angustum* (Willd.) Presl. (*Asplenium Filix-femina* of Manual in part. #3.)

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

#1. Weatherby 1919 Rhod. 21 p.173

#2. Svenson 1923 Rhod. 25 p.185

#3. Butters 1917 Rhod. 19 p.178

#4. Jesup 1891 Flora and Fauna p.56.





*Athyrium angustum* (Willd.) Presl., var. *elatus* Butters (*Asplenium*  
*Felix-femina* of Manual, in part. #1)

Bristol	Horner	1882	NE.
---------	--------	------	-----

*Athyrium angustum* (Willd.) Presl., var. *rubellum* (Gilbert) Butters  
(*Asplenium Felix-femina* of Manual, in part. #1.)

Plymouth	Knowlton	1913	NE.
----------	----------	------	-----

Lebanon	Kennedy	1910	S.
---------	---------	------	----

	BPH.	1920	NE.
--	------	------	-----

*Athyrium angustum* (Willd.) Presl., form *elegans* Butters  
(*Asplenium Felix-femina* of Manual, in part. #1.)

Lebanon	Kennedy	1885	NE.
---------	---------	------	-----

#### CAMPTOSORUS Link. Walking Leaf

*Camptosorus rhizophyllus* (L.) Link.

Lebanon	Barrows	Reported by Jesup (#2.), but have seen no specimens from the county
---------	---------	--

#### POLYSTICHUM Roth.

*Polystichum acrostichoides* (Michx.) Schott. Christmas Fern

Woodstock	Vernald	1915	NE.
-----------	---------	------	-----

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Plymouth	Knowlton	1915	NE.
----------	----------	------	-----

Lebanon	BPH.	1920	NE.
---------	------	------	-----

*Polystichum acrostichoides* (Michx.) Schott. var. *incisum* Gray

Orford	Rodman	1873	ES.
--------	--------	------	-----

#1. Butters 1917 Rhod. 19 p.178

#2. Jesup 1891 Flora and Fauna p.57.

CC

CC

Bristol	Horner	1882	NE.
Lebanon	Kennedy	1885	G.

*Polystichum Braunii* (Spencer) Fée., var. *Purshii* Fernald

(*Polystichum Braunii* of Manual. #1.) Braun's Holly Fern

Bethlehem	Titus		NE.
Franconia	Robinson	1905	NE.
	Faxon	1887	G.
Lincoln	Fernald	1915	NE.
Waterville	Lane	1879	G.

*THELYPTERIS* Schmidel. Shield Fern

(*Aspidium* of Manual; *Dryopteris* Adans. #1.)

*Thelypteris palustris* Schmidel. (*Aspidium Thelypteris* of Manual. #1.)

Bethlehem	Taylor	1898	NE.
Wentworth	Williams	1908	G.
Plymouth	Knowlton	1915	NE.
Lebanon	Kennedy	1890	G.

*Thelypteris noveboracensis* (L.) Nieuwl. (*Aspidium noveboracense* of Manual. #1.)

Holderness	Gunderson, Lowenstein	1914	NE.
Plymouth	Knowlton	1917	NE.
Lebanon	Kennedy	1890	G.

*Thelypteris Phegopteris* (L.) Slosson. (*Phegopteris polypodioides* of Manual. #1.)

Bethlehem	Collins	1889	G.
	Taylor	1898	NE.
Franconia	Collins	1889	NE.





Waterville	Cushman	1912	BS.
Holderness	Lowenstein	1914	NE.
Plymouth	Knowlton	1915	NE.
Lebanon	BPH.	1920	NE.

*Thelypteris hexagonoptera* (Michx.) Weatherby. (*Phegopteris hexagonoptera* of Manual. #1.)

Holderness	Svenson	1921	NE.
------------	---------	------	-----

*Thelypteris Dryopteris* (L.) Slosson (*Phegopteris Dryopteris* of Manual. #1.)

Bethlehem	Collins	1891	NE.
Waterville	Cushman	1912	BS.
Warren	Williams	1907	G.
Holderness	Svenson	1921	NE.
Lebanon	Pease	1900	NE.
	BPH.	1920	NE.

*Thelypteris marginalis* (L.) Nieuwl. (*Aspidium marginale* of Manual. #1.)

Franconia	Kennedy	1910	G.
Warren	Williams	1908	NE.
Holderness	Hope	1910	NE.
Plymouth	Knowlton	1915	NE.

*Thelypteris Goldiana* (Hook.) Nieuwl. (*Aspidium Goldianum* of Manual. #1.)

Hanover	Flint	1874	BS.
---------	-------	------	-----

*Thelypteris cristata* (L.) Nieuwl. (*Aspidium cristatum* of Manual. #1.)

Bethlehem	Collins	1889	NE.
Warren	Knowlton	1919	NE.
Holderness	Sunderson, Lowenstein	1914	NE.



Lebanon	Kennedy	1890	G.
---------	---------	------	----

	Fernald, Hunnewell	1920	NE.
--	--------------------	------	-----

*Thelypteris cristata* (L.) Nieuwl., var. *Clintoniana* (H.G.Eaton) Weatherby  
(*Aspidium cristatum*, var. *Clintonianum* of Manual, #1.)

Franconia	Faxon	1896	NE.
-----------	-------	------	-----

Hanover	Hitchcock	Reported by Jesup (#2.), no specimen seen	
---------	-----------	--	--

*Thelypteris Bootii* (Tuckerm.) Nieuwl. (*Aspidium Bootii* of Manual, #1.)

Hanover	Williams	1910	NE.
---------	----------	------	-----

*Thelypteris spinulosa* (O.F.Müller) Nieuwl. (*Aspidium spinulosum* of  
Manual, #1.)

Hanover	Eddy		BS.
---------	------	--	-----

Lebanon	Kennedy	1890	G.
---------	---------	------	----

	BFH.	1920	NE.
--	------	------	-----

*Thelypteris spinulosa* (O.F.Müller) Nieuwl., var. *intermedia* (Muhl.)  
Weatherby. (*Aspidium spinulosum*, var. *intermedium* of Manual, #1.)

Franconia	Robinson	1905	NE.
-----------	----------	------	-----

Waterville	Fuller	1897	NE.
------------	--------	------	-----

Warren	Williams	1908	G.
--------	----------	------	----

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Plymouth	Knowlton	1915	NE.
----------	----------	------	-----

Hanover	Stewart	1908	G.
---------	---------	------	----

Lebanon	Kennedy	1890	G.
---------	---------	------	----

	BFH.	1920	NE.
--	------	------	-----

#1. Weatherby 1919 Rhod. 21 p.173

#2. Jesup 1891 Flora and Fauna p.57.





*Thelypteris spinulosa* (O.F.Müller) Muewbl., var. *americana* (Fisch.)

Weatherby. (*Aspidium spinulosum*, var. *americanum* Fisch. #1.)

Bethlehem	Grant	1895	NE.
Franconia	Fernald	1915	NE.
Warren	Williams	1908	NE.

*Thelypteris cristata*, var. *Clintoniana* T.T. *spinulosa*, var. *intermedia*

Franconia	Faxon	1896	G.
-----------	-------	------	----

#### CYSTOPTERIS Bernh. Bladder Fern

*Cystopteris fragilis* (L.) Bernh.

Holderness	Gunderson, Lowenstein	1914	NE.
Plymouth	Fernald	1915	NE.
Lebanon	BFH.	1920	NE.

#### WOODSIA F.Br.

*Woodsia ilvensis* (L.) R.Br.

Plymouth	Fernald	1915	NE.
Hanover	Edmondson	1908	G.
Lebanon	Kennedy	1924	G.
	Pease	1895	NE.

#### DICKSONIA Bernh.

(*Dicksonia* of Manual. #1.)

*Lennstaedtia punctilobula* (Michx.) Moore. (*Dicksonia punctilobula* of Manual. #1.)

Bethlehem	Taylor	1898	NE.
-----------	--------	------	-----

#1. Weatherby 1919 Rhod. 21 p.173



Waterville	Cushman	1912	PS.
Warren	Williams	1907	WE.
Holderness	Gunderson, Lowenstein	1914	WE.
Plymouth	Knowlton	1915	WE.
Lebanon	Kennedy	1890	S.
	BPH.	1920	WE.

#### ONOCLEA L.

*Onoclea sensibilis* L. Sensitive Fern

Warren	Williams	1908	S.
Holderness	Gunderson, Lowenstein	1914	WE.

*Onoclea sensibilis* L., form *obtusilobata* (Schkuhr.) Gilbert (Var. *obtusilobata* of Manual)

Bethlehem	Collins	1891	WE.
Holderness	Gunderson, Lowenstein	1914	WE.

#### PTERETIS Raf.

(*Onoclea* section *Struthiopteris* of Manual. #1.)

*Pteretis nodulosa* (Michx.) Nieuwl. (*Onoclea* *Struthiopteris* of Manual. #1.)

Bethlehem	Taylor	1898	WE.
Warren	Williams	1907	WE.
Plymouth	Fernald	1915	WE.
Bristol	Fitch	1893	WE.
Lebanon	Pease	1900	WE.
	BPH.	1920	WE.





## FAMILY OSMUNDACEAE

## OSMUNDA (Tourn.) L. Flowering Fern

*Osmunda regalis* L., var. *spectabilis* (Willd.) Gray. (*Osmunda regalis* of Manual. (1.) Royal Fern

Bethlehem	Taylor	1898	NE.
-----------	--------	------	-----

Lebanon	Fernald, Hunnewell	1920	NE.
---------	--------------------	------	-----

*Osmunda Claytoniana* L. Interrupted Fern

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Lebanon	Fernald, Hunnewell	1920	NE.
---------	--------------------	------	-----

*Osmunda cinnamomea* L. Cinnamon Fern

Lebanon	Kennedy	1887	NE.
---------	---------	------	-----

	Fernald, Hunnewell	1920	NE.
--	--------------------	------	-----

*Osmunda cinnamomea* L., var. *frondosa* Gray

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

*Osmunda cinnamomea* L., var. *incisa* J.E. Huntington

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

## FAMILY OPHIOGLOSSACEAE

## OPHTHOGLOSSUM (Tourn.) L. Adder's Tongue

*Ophioglossum vulgatum* L.

Holderness	Gunderson, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Lebanon	BEH.	1920	NE.
---------	------	------	-----

## BOTRYCHIUM Sw. Moonwort

*Botrychium simplex* E. Hitchcock

Lisbon	Faxon	1887	NE.
--------	-------	------	-----

*Botrychium angustisegmentum* (Pease & Moore) Fernald (*Botrychium lanceolatum*, var. *angustisegmentum* of Manual. (2.)

(1. Fernald 1930 Rhod. 32 p. 71-76.

(2. Fernald 1915 Rhod. 17 p. 37



Frankonia	L. Faxon	1877	N.
Woodstock	Fernald	1915, 1917	NE., G.
Manover	Williams	1910	G.
Lebanon	B.H.	1920	NE.

*Botrychium atricariaefolium* (Both.) Schreb. (*Botrychium ramosum* of American authors. #1.)

Bethlehem	Taylor	1899	NE.
	Mann, Faxon		N.
Frankonia	Faxon	1887, 1896	N.
Woodstock	Fernald	1915	NE.
Holderness	Gunderson, Lowenstein	1914	NE.

*Botrychium dissectum* Spreng. (*Botrychium obliquum*, var. *dissectum* of Manual. #2.)

Bethlehem	Taylor	1899	NE.
Holderness	Gunderson, Lowenstein	1914	NE.

*Botrychium ternatum* (Thunb.) Sw., var. *intermedium* L. L. Faxon

Warren	Williams	1907	NE.
Holderness	Gunderson, Lowenstein	1914	NE.

*Botrychium virginianum* (L.) Sw.

Bethlehem	Collins	1891	G.
Holderness	Gunderson, Lowenstein	1914	NE.
Manover	Lowell		NE.
Lebanon	Kennedy	1885, 1890	G.
	B.H.	1920	NE.

#1. Schinz 1916 Vierteljahresschrift Naturf. Gesell. 61 p.416.

#2. Fernald 1921 Rhod. 23 p.151





## ORDER EQUISETALES

## FAMILY EQUISETACEAE

*EQUISETUM* (Tourn.) L. Horsetails*Equisetum arvense* L.

Waterville	Cushman	1912	80.
Warren	Williams	1908	80.
Hanover	Williams	1910	80.

*Equisetum pratense* Ehrh.

Lebanon	W.F.H.	1920	80.
---------	--------	------	-----

*Equisetum sylvaticum* L., var. *pauciramosum* Wilde. (1.)

Balderness	Anderson, Lowenstein	1914	80.
Hanover	Moore	1909	80.

*Equisetum sylvaticum* L., var. *pauciramosum* Wilde., form *multiramosum*

## Fernald. (2.)

Hanover	Moore	1905	80.
Lebanon	W.F.H.	1920	80.

*Equisetum litoreale* Wherry

Lebanon	W.F.H.	1920	80.
---------	--------	------	-----

*Equisetum limosum* L. (*Equisetum flexile* of Manual. 22.)

Flymoate	Knowlton	1905	80.
Centworth	Williams	1903	80.

*Equisetum limosum* L., form *verticillatum* Peck (22.)

Bethlehem	Flint	1871	80.
Lebanon	Loveland	1889	80.

1. Fernald 1912 Rhod. 20 p.151

2. Fernald &amp; Weatherby 1921 Rhod. 23 p.47



*Equisetum hyemale* L., var. *affine* (Engelm.) A.A. Eaton

Hanover	Williams	1910	NE.
Lebanon	Kennedy	1890	G.
	Fernald, Hammewell	1920	NE.

*Equisetum variegatum* Schleich.

Hanover	Reported by Jesup (1.), have seen no specimen from the county.		
---------	--	--	--

*Equisetum scirpoides* Michx.

Holderness	Venson	1921	NE.
Flymouth	Knovlton	1915	NE.
Hanover	Williams	1912	G.

## ORDER LYCOPODIALES

## FAMILY LYCOPODIACEAE

## LYCOPODIUM L. Club Moss

*Lycomodium Selago* L.

Franconia	Tuckerman	1878	G.
	Robinson	1874	NE.
	Fernald, Smiley	1915	NE.
Livermore	Pease	1915	NE.

*Lycomodium Selago* L., var. *appressum* Desv.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

*Lycopodium lucidulum* Michx.

Bethlehem	Collins	1891	NE.
Lincoln	Triggs	1915	NE.
Woodstock	Fernald	1915	NE.





Holderness	Fernald	1915	NE.
Hanover	Flint	1874	SE.
Lebanon	B.H.	1920	NE.

*Lycopodium inundatum* L.

Franconia	Faxon, Waller	1890	SE.
Wentworth	Williams	1903	SE.
Plymouth	Reported by Jessup (#1.), no specimen seen.		
Dorchester	Jessup, Jargent	1892	NE.
Canaan	Winslow	1913	NE.
Hanover	Reported by Jessup (#1.), no specimen seen.		

*Lycopodium annotinum* L.

Hanover	Flint	1874	NE.
Enfield (#2.)	Kennedy	1890	S.
Lebanon	B.H.	1920	NE.

*Lycopodium annotinum* L., var. *alpestre* Mart. (#2.)

Franconia	Fernald	1915	NE.
-----------	---------	------	-----

*Lycopodium annotinum* L., var. *scrifolium* Fernald (#2.)

Woodstock	Fernald	1915	NE.
Holderness	Henderson, Howenstein	1914	NE.
Bridgewater	Howe	1902	PS.

*Lycopodium annotinum* L., var. *pungens* Desv.

Franconia	Robinson	1874	NE.
	Fernald, Jackson, Smiley	1915	NE.

*Lycopodium clavatum* L.

Franconia	Fernald	1915	NE.
Woodstock	Fernald	1915	NE.

1. Jessup Fauna and Flora 1891 p.58.

2. Fernald 1915 Rhod. 17 p.124



Holderness	Fernald	1915	NE.
Bridgewater	Howe	1901	NE.
<i>Lycopodium clavatum</i> L., var. <i>megastachyon</i> Fernald & Russell (1.)			
Woodstock	Fernald	1915	NE.
Benton	Williams	1908	NE.
<i>Lycopodium obscurum</i> L.			
Woodstock	Fernald	1915	NE.
Lebanon	Kennedy	1920	NE.
	SW.	1920	NE.
<i>Lycopodium obscurum</i> L., var. <i>dendroideum</i> (Michx.) D.S. Eaton			
Holderness	Gunderson, Lowenstein	1914	NE.
<i>Lycopodium selaginifolium</i> Willd.			
Holderness	Hamovill, Loomis	1921	NE.
<i>Lycopodium complanatum</i> L.			
Benton	Tower	1875	G.
<i>Lycopodium complanatum</i> L., var. <i>flabelliforme</i> Fernald			
Waterville	Cushman	1912	NE.
Holderness	Fernald	1915	NE.
Plymouth	Knowlton	1915	NE.
Lebanon	SW.	1920	NE.
<i>Lycopodium tristachyum</i> Pursh.			
Woodstock	Fernald	1915	NE.
Waterville	Cushman	1912	NE.
Infield	Horr	1901	G.





## FAMILY SELAGINELLACEAE

## SELAGINELLA Beauv.

*Selaginella rupestris* (L.) Spring.

Holderness	Hundersen, Lowenstein	1914	VI.
	Iverson	1921	VI.
Hebron	Pease	1926	VI.
Lebanon	Pease	1921	VI.

*Selaginella apoda* (L.) Spring (S. apae of Manual 1.)

Hanover	Williams	1910	VI.
---------	----------	------	-----

## FAMILY ISOETACEAE

## ISOETES L. Quillwort

*Isoetes echinospora* Dur., var. *Braunii* (Dur.) Engelm.

Franconia	Wm. Foott	1865, 1863	VI., 2.
	Faxon	1891	VI.
	Fernald, Bailey	1915	VI.
Holderness	Hundersen, Lowenstein	1914	VI.
Hanover	Reported by Jesup (2.), no specimen seen.		
Canaan	Reported by Jesup (2.), no specimen seen.		

*Isoetes riparia* Engelm., var. *canadensis* Engelm. (I. Dodgei of Manual 3.)

Hanover	Williams	1910	2.
---------	----------	------	----

1. Fernald 1915 Rhod. 17 p.68.

2. Jesup 1921 Fauna and Flora p. 58.

3. Pfeiffer 1922 Annals Mo. Bot. Gard. 9 p.184.



## DIVISION SPERMATOPHYTES

## SUBDIVISION GYMNOSPERMES

## ORDER CONIFERALES

## FAMILY TAXACEAE

## TAXUS (Tourn.) L. Yew

## Taxus canadensis Marsh. Round Hemlock

Woodstock	Fernald	1915	NE.
Holderness	Botany 7	1915	NE.
Lebanon	Kennedy	1890	G.
	Fernald, Hunnewell, Woods	1920	NE.

## FAMILY PINACEAE

## PINUS (Tourn.) L. Pine

## Pinus Strobus L. White Pine

Holderness	Botany 7	1915	NE.
------------	----------	------	-----

## Pinus Banksiana Lamb. Northern Scrub Pine

Thornton	Fuller	1897	NE.
	Wheeler	1913	NE.

An extreme southern station for this species; it is also found along the shore of Lake Umbagog in COOS County. (#1.) (#2.)

## Pinus resinosa Ait. Red Pine

Franconia	Faxon	1892, 1893	NE.
Woodstock	Fernald	1915	NE.
Warren	Williams	1908	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
Plymouth	Fernald	1915	NE.

1. Pease 1924 Proc. Boston Soc. Nat. Hist. 37, 3, p.147

2. Pychowska 1891 Bul.Tor.Bot.Club 18 p.150





*Pinus sylvestris* L. Scotch Pine

Reported by Jesup (fl.) to be naturalized at Hanover; have seen no specimens from the county.

## LARIX (Tourn.) Adans. Larch

*Larix laricina* (DuRoi) Koch. Tamarack, Hackmatack, or American Larch

Lebanon	Eaton, E.I.	1900	NE.
---------	-------------	------	-----

This tree may have been set out.

*Larix decidua* Mill. European Larch

Reported by Jesup (fl.) to be naturalized at Hanover; have seen no specimens from the county.

## PICEA Link. Spruce

*Picea canadensis* (Mill.) B.S.P. White Spruce

Franconia	Fuller	1890	NE.
-----------	--------	------	-----

Holderness	Botany 7	1915	NE.
------------	----------	------	-----

*Picea rubra* (DuRoi) Distr. Red Spruce

Holderness	Botany 7	1915	NE.
------------	----------	------	-----

*Picea mariana* (Mill.) B.S.P. Black or Bog Spruce

Franconia	Fuller	1890	NE.
-----------	--------	------	-----

	Faxon	1897	G.
--	-------	------	----

	Fernald, Jackson, Smiley	1915	NE.
--	--------------------------	------	-----

Waterville	Robinson	1894	G.
------------	----------	------	----

## TSUGA (Endl.) Carr. Hemlock

*Tsuga canadensis* (L.) Carr.

Warren	Williams	1908	G.
--------	----------	------	----

1. Jesup 1891 Flora and Fauna p.41.



## ABIES (Tourn.) Mill. Fir

*Abies balsamea* (L.) Mill. Fir Balsam

Franconia	Fernald, Emiley	1915	VE.
Holderness	Sunderesen, Lowenstein	1914	VE.

## THUJA L. Arbor Vitae

*Thuja occidentalis* L.

Woodstock	Fernald	1917	VE.
Hanover	Pickard	1946	VE.

## JUNIPERUS (Tourn.) L. Juniper

*Juniperus communis* L., var. *depressa* Pursh.

Woodstock	Fernald	1915	VE.
-----------	---------	------	-----

Reported by Jesup (#1.) from Hanover, Orford, and Enfield but no specimens seen. The natives of Woodstock say that Juniper was introduced there because of the demand for the berries to flavor gin.

*Juniperus virginiana* L.

Reported by Jesup (#1.) from Hanover, but no specimen seen from the county.

## SUBDIVISION ANGIOSPERMAE

## CLASS MONOCOTYLEDONEAE

## ORDER PANDANALES

## FAMILY SPARGANIACEAE

## SPARGANIUM (Tourn.) L. Bur-Reeds

*Sparganium chlorocarpum* Rydb. (*S. diversifolium* of Manual. #2.)

Franconia	Williams	1924	VE.
Hanover	Williams	1910	VE.

#1. Jesup 1891 Flora and Fauna p. 41.

#2. Fernald 1922 Rhod. 24 p. 33.





*Sparganium chlorocarpum* Rydb., var. *acaule* (Beeby) Fernald.

(*S. diversifolium* of Manual, var. *acaule* (Beeby) Fernald & Sames. 1.)

Franconia	Faxon	1890	G.
Lebanon	Kennedy	1890	G.

*Sparganium angustifolium* Michx. (Includes *S. simplex* of Manual. 2.)

Bethlehem	Faxon	1879	G.
Franconia	St. John	1912	NE.
Lincoln	Kennedy	1891	G.
Wentworth	Williams	1908	NE.

*Sparganium minimum* Fries.

Holderness	Svenson	1921	NE.
------------	---------	------	-----

#### ORDER NAJADEALES

#### FAMILY NAJADEACEAE

*POTAMOGETON* (Tourn.) L. Pondweed

*Potamogeton natans* L.

Lincoln	Faxon	1885	NE.
Lebanon	Kennedy	1891	G.

*Potamogeton perfoliatus* Raf.

Lincoln	Faxon	1885	NE.
Hanover	Williams	1910	NE.
Enfield	Kennedy	1890	G.
Lebanon	Kennedy	1890	G.

*Potamogeton microstachys* Wolfg. (*P. alpinus* of Manual. 3.)

Hanover	Williams	1910	G.
---------	----------	------	----

1. Fernald 1922 Rhod. 24 p.29.
2. Fernald 1925 Rhod. 27 p.190.
3. Fernald 1930 Rhod. 32 p.76.



*Potamogeton amplifolius* Tuckerm.

Holderness	Hope	1910	W.
------------	------	------	----

*Potamogeton heterophyllus* Schreb., forma *graminifolius* (Fries.) Morong.

Lisbon	Faxon	1887	G.
--------	-------	------	----

*Potamogeton heterophyllus* Schreb., forma *maximus* Morong.

Hanover	Jesup	1876	G.
---------	-------	------	----

*Potamogeton prealongus* Mulf.

Lisbon	Faxon	1887	G.
--------	-------	------	----

*Potamogeton bupleuroides* Fernald.

Holderness	Reported by Svenson (#1.), no specimen seen.		
------------	--	--	--

Hanover		1840	W.
---------	--	------	----

	Williams	1910	G.
--	----------	------	----

*Potamogeton zosterifolius* Schumacher.

Reported by Jesup from Enfield (#2.), but no specimen seen from county.

*Potamogeton confervoides* Reichenb.

Bethlehem	Faxon	1879	M., G.
-----------	-------	------	--------

	Lowell		G.
--	--------	--	----

Lincoln	Faxon	1879, 1885	M., G.
---------	-------	------------	--------

	Kennedy	1891	G.
--	---------	------	----

An extremely rare species found only in a few isolated colonies from the New Jersey Pine Barrens to the plateau of western Newfoundland in localities which were probably not glaciated by the Pleistocene ice. (#3.)

*Potamogeton pectinatus* L.

Hanover	Jesup	1876	G.
---------	-------	------	----

*Potamogeton Fobbinsii* Oakes.

Reported by Jesup (#2.) from Enfield and Lebanon; no specimen seen from county.

#1. Svensen 1923 Rhod. 25 p.185

#2. Jesup 1891 Flora and Fauna p.48.

#3. Fernald 1931 Rhod. 33 p.57





## NAJAS L. Naiad

*Najas flexilis* (Willd.) Postk. & Schmidt.

Enfield	Kennedy	1890	G.
---------	---------	------	----

## JUNCAGINACEAE

## SCHEUCHZERIA L.

*Scheuchzeria palustris* L., var. *americana* Fernald. (#1.)

Bethlehem	Faxon	1877, 1879	G., NE.
-----------	-------	------------	---------

## ALISMACEAE

## SAGITTARIA L. Arrow-Head

*Sagittaria cuneata* Eheldon. (*S. arifolia* of Manual. #2.)

Hanover	Williams	1910	G.
---------	----------	------	----

*Sagittaria heterophylla* Pursh.

Hanover	Williams	1910	G.
---------	----------	------	----

*Sagittaria latifolia* Willd., form *hastata* (Pursh.) Robinson.

Enfield	Kennedy	1890	G.
---------	---------	------	----

*Sagittaria latifolia* Willd., form *gracilis* (Pursh.) Robinson.

Wentworth	Williams	1908	G.
-----------	----------	------	----

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

	Svenson	1921	NE.
--	---------	------	-----

Canaan	Winslow	1918	NE.
--------	---------	------	-----

*Sagittaria latifolia* Willd., form *diversifolia* (Engelm.) Robinson.

Holderness	Svenson	1921	NE.
------------	---------	------	-----

*Sagittaria graminea* Michx.

Holderness	Svenson	1921	NE.
------------	---------	------	-----

Reported by Jesup (#3.) from Hanover and Lebanon, but no specimens seen.

#1. Fernald 1923 Rhod. 25 p.177

#2. Fernald 1921 Rhod. 23 p.192.

#3. Jesup 1891 Flora and Fauna p.47.



## ALISMA L. Water Plantain.

*Alisma Plantago-aquatica* L., var. *nerviflora* (Pursh.) Farwell. (#1.)

Haverhill	Fernald	1917	NE.
Lebanon	Pease	1900	NE.

## HYDROCHARITACEAE

## VALLISNERIA (Michx.) L. Kel Grass

*Vallisneria spiralis* Michx. (V. *spiralis* of Manual. #2.)

Reported by Jesup (#4.) from Hanover, but no specimens seen from county.

## ORDER GRAMINALIA

## GRAMINEAE

## ANDROPOGON (Roen.) L. Beard Grass

*Andropogon scoparius* Michx., var. *frequens* Hubbard (#3.)

Wentworth	Williams	1908	NE.
Plymouth	Fernald	1915	NE.
Lebanon	Kennedy	1893, 1907	NE., 1.

*Andropogon furcatus* Muhl.

Bath	Fernald	1917	NE.
Plymouth	Knowlton	1923	NE.
Lebanon	Kennedy	1907	S.

## SORGHASTRUM Nash.

*Sorghastrum nutans* (L.) Nash.

Bath	Fernald	1917	NE.
------	---------	------	-----

#1. Farwell 1900 Annual Rept. Comm. Parks &amp; Boulev. Detroit 11 p.44.

#2. Fernald 1918 Rhod. 20 p.108

#3. Hubbard 1917 Rhod. 19 p.103

#4. Jesup 1891 Flora and Fauna p.42.





## PANICUM L.

*Panicum capillare* L., var. *occidentale* Rydb. (#1.)

Lebanon	Kennedy	1891	NE.
---------	---------	------	-----

*Panicum luckermanni* Fernald. (#1.)

Holderness	Svenson	1921	NE.
------------	---------	------	-----

*Panicum depauperatum* Auhl., var. *psilophyllum* Fernald. (#2.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Panicum linearifolium* Scribn.

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

*Panicum linearifolium* Scribn., var. *vernieri* (Scribn.) Fernald.

(P. Fernald of Manual. #3.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Panicum dichotomum* L.

Plymouth	Fernald	1915	G.
----------	---------	------	----

*Panicum boreale* Nash.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Panicum Lindheimeri* Nash., var. *septentrionale* Fernald. (#4.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

*Panicum Lindheimeri* Nash., var. *fasciculatum* (Torr.) Fernald. (#4.)

(P. huachucae of Manual.)

Woodstock	Fernald	1915	G.
-----------	---------	------	----

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

#1. Fernald 1919 Rhod. 21 p.110.

#2. Fernald 1921 Rhod. 23 p.193.

#3. Fernald 1921 Rhod. 23 p.194.

#4. Fernald 1921 Rhod. 23 p.227.



*Panicum Lindheimeri* Nash., var. *implicatum* (Scribn.) Fernald. (#1.)

(*P. implicatum* of Manual.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

*Panicum subvillosum* Ashe.

Lebanon	Fernald, Hunnswell	1920	NE.
---------	--------------------	------	-----

*Panicum tsugetorum* Nash.

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

*Panicum columbianum* Scribn.

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

*Panicum xanthophyllum* Gray.

Bethlehem	Pease	1922	NE.
-----------	-------	------	-----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Reported by Jesup (#3.) from Hanover and Lebanon, but no specimens seen.

*Panicum clandestinum* L.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Lebanon	Kennedy	1896, 1907	NE., ?.
---------	---------	------------	---------

*Panicum latifolium* L.

Bath	Pease	1926	NE.
------	-------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Lebanon	Kennedy	1907	NE.
---------	---------	------	-----

#1. Fernald 1921 Rhod. 23 p.228

#2. *P. columbianum* was called by Hubbard, *P. heterophyllum*, but *columbianum* valid.

#3. Jesup 1891 Flora and Fauna p.52.





## Echinochloa Beauv.

*Echinochloa crusgalli* (L.) Beauv.

Haverhill	Fernald	1917	11.
Warren	Williams	1908	2.

## Setaria Beauv.

*Setaria latifolia* Hubb. (S. glauca of Manual. #1.)

Warren	Williams	1908	2.
--------	----------	------	----

*Setaria viridis* (L.) Beauv.

Warren	Williams	1908	2.
--------	----------	------	----

*Setaria viridis* (L.) Beauv., var. *Weinmannii* (P. & A.) Brand. (#2.)

Woodsville	Williams	1908	2.
------------	----------	------	----

*Setaria italica* (L.) Beauv., subspecies *stramineofructa* Hubbardvar. *Hostii* Hubbard subvar. *Metzgeri* Hubbard (#3.)

Lebanon	Kennedy	1890	2.
---------	---------	------	----

## LEERSIA Sw. Cut-Grass

*Leersia oryzoides* (L.) Sw.

Wentworth	Williams	1908	2.
Warren	Williams	1908	2.

## HIEROCHLOA (Gmel.) B.Br. Holy Grass

*Hierochloa odorata* (L.) Vahlb.

Franconia	Faxon	1899	11.
Infield	Knowlton	1920	15.

- #1. Hubbard 1916 Rhod. 18 p.231-236
- #2. Fernald & Wiegand 1910 Rhod. 12 p.133.
- #3. Hubbard 1915 Am. Jour. Bot. 2 p.191.



*Hierochloa alpina* (Sw.) F. & S.

Franconia	Faxon	1887	Fl.
	Fuller	1890	Fl.
	Fernald, Smiley	1913	Fl.

*Oryzopsis Michx.* Mountain Rice.*Oryzopsis pungens* (Torr.) Hitch.

Plymouth	Fernald	1913	Fl.
Ashland	Fernald	1916	Fl.

*Oryzopsis asperifolia* Michx.

Holderness	Fernald	1915	Fl.
Hanover	Wickard	1846	Fl.
Lebanon	Kennedy	1895	S.
	Pease	1907	Fl.
	BPH.	1910	Fl.

*Muhlenbergia* Schreb.*Muhlenbergia foliosa* Trin.

Franconia	Kennedy	1907	S.
Warren	Williams	1908	S.

*Muhlenbergia mexicana* (L.) Trin.

Lebanon	Kennedy	1907	Fl.
---------	---------	------	-----

*Muhlenbergia racemosa* (Michx.)

Franconia	Faxon	1892	Fl.
	Kennedy	1907	S.
Lincoln	Griggs	1913	Fl.
Wentworth	Williams	1908	S.
Plymouth	Fernald	1915	Fl.



*Muhlenbergia uniflora* (Muhl.) Vernald. (*Anorebalis uniflorus* of Manual. #1.)

Franconia	Wm. Scott	1883	VI.
Woodstock	Fernald	1915	VI.
Wentworth	Williams	1908	VI.

*BRACHYELYTRUM* Beauv.

*Brachyelytrum erectum* (Schreb.) Beauv.

Franconia			VI.
Woodstock	Fernald	1915	VI.
Waterville	Rare	1909	VI.
Holderness	Faxon	1896	VI.
Lebanon	Kennedy	1893	VI.

*PHLEUM* L.

*Phleum pratense* L. Timothy

Littleton	Closson (viviparous form)	1884	VI.
Franconia	Bates (viviparous form)		VI.
Waterville	Rare	1909	VI.
Benton	Williams	1907	VI.

*AGROSTIS* L. Bent Grass.

*Agrostis alba* L.

Franconia	Wm. Scott	1863	VI.
Lebanon	Pease	1901	VI.

*Agrostis alba* L., var. *vulgaris* (With.) Shurb.

Bethlehem	Conant	1873	VI.
Woodstock	Fernald	1915	VI.
Lincoln	Fernald	1915	VI.
Waterville	Rare	1905	VI.





*Agrostis alba* L., var. *aristata* Gray.

Woodstock	Fernald	1915	MS.
-----------	---------	------	-----

*Agrostis hyemalis* (Walt.) BSP.

Woodstock	Fernald	1915	MS.
-----------	---------	------	-----

Verren	Williams	1910	G.
--------	----------	------	----

*Agrostis perennans* (Walt.) Tuckerm.

Lincoln	Fernald	1915	MS.
---------	---------	------	-----

Waterville	Cushman	1910	MS.
------------	---------	------	-----

*Agrostis canina* L.

Waterville	Sare	1905	MS.
------------	------	------	-----

*Agrostis borealis* Hartz.

Franconia	Wm. Boott	1870	MS.
-----------	-----------	------	-----

	Buller	1820	MS.
--	--------	------	-----

	Fernald, Smiley	1915	MS.
--	-----------------	------	-----

	Chickens		G.
--	----------	--	----

*Agrostis borealis* Hartm., var. *americana* (Scrib.) Fernald. (#1.)

Franconia	Wm. Boott	1863	MS.
-----------	-----------	------	-----

	Fernald, Smiley	1915	MS.
--	-----------------	------	-----

	Tuckerman		G.
--	-----------	--	----

*Calamagrostis* Adans.*Calamagrostis Pickeringii* Gray.

Bethlehem	Faxon	1877	MS.
-----------	-------	------	-----

Woodstock	Fernald	1915	MS.
-----------	---------	------	-----

*Calamagrostis Pickeringii* Gray., var. *debilis* (Kearney) Fernald & Wiegand.

(#2.)

Bethlehem	Pringle	1877	MS.
-----------	---------	------	-----

#1. Never Published

#2. Fernald &amp; Wiegand 1913 Rhod. 15 p.135.



Bethlehem	Faxon	1879, 1887	G., NE.
Franconia	Wm. Poott	1861, 1863	G., NE.
	Faxon	1871, 1890, 1891	NE., G.
	Fuller	1890	NE.
	Fernald, Jackson	1915	NE.
Woodstock	Fernald	1915	NE.
Thornton	Faxon	1905	NE.

*Calamagrostis Pickeringii* Gray, var. *laetis* (Learney) Hitch.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Calamagrostis canadensis* (Michx.) Beauv.

Franconia	Faxon	1891	G.
	Fernald	1915	NE.
Woodstock	Fernald	1915	NE.
Warren	Williams	1903	G.
Letanow	Kennedy	1890	G.

*Calamagrostis canadensis* (Michx.) Beauv., var. *robusta* Vasey (#1.)

Franconia	Wm. Poott	1861	G.
	Kennedy	1890	G.
	Faxon	1891	NE.
Lincoln	Fernald	1915	NE.
Benton	Faxon	1886	G.
	Williams	1907, 1908	G., NE.

*Calamagrostis canadensis* (Michx.) Beauv., var. *Langsdorfii* (Link.)

Inman. (#1.) (C. *Langsdorfii* of Manual.)

Bethlehem	Faxon	1877	G.
Franconia	Huntington	1876	G.
	Faxon, Fuller	1890	NE.

Reported from Benton by Jesup (#1.), but no specimen seen

#1. Inman 1922 Rhod. 24 p.143.

#2. Jesup 1891 Flora and Fauna p.53.





## CINNA L.

*Cinna arundinacea* L.

Plymouth	Knobleton	1907	—.
----------	-----------	------	----

*Cinna latifolia* (Trev.) Wiseb.

Lincoln	Griggs	1915	NE.
Waterville	Cushman	1918	NE.
Benton	Williams	1908	NE.
Warren	Williams	1908	G.
Hanover	Williams	1910	G.

## SPHENOPHOLIS Scribn.

*Sphenopholis pallens* (Spreng.) Scribn.

Woodstock	Fernald	1915	NE.
Wentworth	Williams	1910	G.
Plymouth	Fernald	1915	NE.
Hanover	Williams	1910	G.
Lebanon	Kennedy	1890	G.

## TRISTEMA Pers.

*Trisetum spicatum* (L.) Richter., var. *molle* (Michx.) Flier. (Fl.)

Haverhill	Fernald	1917	NE.
Lebanon	B.W.	1920	NE.

## LESCHAMPSIA Beauv.

*Leschampsia flexuosa* (L.) Trin.

Franconia	Puller	1882	NE.
	Williams	1894	NE.
	Fernald, Smiley	1915	NE.
Lincoln	Fernald	1915	NE.



Benton	Williams	1907	NE.
Waterville	Wm. Boott	1860	".

#### AVENA (Tourn.) L. Oat

##### *Avena sativa* L.

Warren	Williams	1908	NE.
--------	----------	------	-----

#### DANTHONIA DC. Wild Oat Grass

##### *Danthonia spicata* (L.) Beauv.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

##### *Danthonia spicata* (L.) Beauv., var. *longipila* Scrib. (1.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

#### ERAGROSTIS Beauv.

##### *Eragrostis Purshii*. Schrad. (*E. pilosa* of Manual. #2.)

Bethlehem	Pease	1924	NE.
-----------	-------	------	-----

#### SCHIZACHNE

##### *Schizachne purpurascens* (Torr.) Swallen. (*Melica striata* of Manual. #3.)

Franconia	Faxon	1896, 1897	NE.
-----------	-------	------------	-----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Lebanon	BWH.	1920	NE.
---------	------	------	-----

#### DACTYLIS L. Orchard Grass.

##### *Dactylis glomerata* L.

Hanover	Flint	1887	NE.
---------	-------	------	-----

	Williams	1910	G.
--	----------	------	----

#1. Lamson Scribner 1901 Circ. U.S. Dept. Agr., Div. Agroest. 30 p.7.

#2. Long 1919 Rhod. 21 p.139.

#3. Swallen 1928 Jour. Wash. Acad. Sci. 18 p.204.



## POA L. Meadow Grass.

*Poa annua* L.

Lebanon	BFH.	1920	NY.
---------	------	------	-----

*Poa compressa* L.

Woodstock	Fernald	1915	NY.
Benton	Williams	1917	NY.
Plymouth	Knowlton	1915	NY.
Lebanon	BFH.	1920	NY.

*Poa laxa* Haenke.

Franconia	Fuller	1890	NY.
	Fernald, Smiley	1915	NY.

*Poa pratensis* L. Kentucky Blue Grass

Woodstock	Fernald	1917	NY.
Haverhill	Fernald	1917	NY.
Hanover	Hitchcock	1876	NY.
Lebanon	BFH.	1920	NY.

*Poa saltuensis* Fernald & Wiegand. (1.)

Woodstock	Fernald	1915	NY.
Lebanon	BFH.	1920	NY.

*Poa alsodes* Gray.

Franconia	Faxon	1903	NY.
Plymouth	Wm. Boott	1855	NY.

## GLYCERIA Br. Wamma Grass.

*Glyceria melicaria* (Michx.) Hubbard (G. Torrejana of Manual. 2.)

Franconia	Wm. Boott	1863	NY.
Woodstock	Fernald	1920	NY.

1. Fernald & Wiegand 1918 Rhod. 20 p.122.

2. Hubbard 1912 Rhod. 14 p.186.





Waterville	Sare	1905	Bl.
Warren	Williams	1910	G.
Bristol	Fich	1893	Bl.

*Glyceria canadensis* (Michx.) Trin.

Franconia	Wm. Boott	1863	G.
Woodstock	Fernald	1915	Bl.
Warren	Williams	1910	G.

*Glyceria striata* (Lam.) Hitch. (*G. nervata* of Manual. #1.)

Woodstock	Fernald	1915	Bl.
Lincoln	Trigg	1915	Bl.
Warren	Williams	1910	G.
Holderness	Faxon	1896	Bl.

*Glyceria grandis* Wats.

Wentworth	Williams	1910	G.
Lebanon	Kennedy	1896	G.

*Glyceria Fernaldii* (Hitch.) St. John. (*G. pallida*, var. *Fernaldii* of Manual. #2.)

Thornton	Pease	1903	Bl.
----------	-------	------	-----

*Glyceria borealis* (Nash) Patchelder.

Bethlehem	Tuckerman	1843	G.
	Faxon	1893	G.
Hanover	Williams	1910	G.

**FESTUCA L. Fescue Grass.**

*Festuca ovina* L.

Franconia	Faxon	1897	Bl.
-----------	-------	------	-----

#1. Hitchcock 1923 Proc. Biol. Soc. Wash. 41 p.157.

#2. St. John 1917 Rhod. 19 p.76.



*Festuca capillata* Lam. (*F. ovina*, var. *capillata* of Manual. #1.)

Franconia	Fernald, Bailey	1915	W.
-----------	-----------------	------	----

*Festuca elatior* L.

Woodstock	Fernald	1915	W.
-----------	---------	------	----

Hanover	Williams	1910	R.
---------	----------	------	----

Lebanon	Kennedy	1906	R.
---------	---------	------	----

*Bromus* L. Brome Grass.

*Bromus ciliatus* L.

Warren	Williams	1908	R.
--------	----------	------	----

*Bromus ciliatus* L., var. *intonsus* Fernald. (#2.)

Franconia	Taxon	1907	R.
-----------	-------	------	----

Lincoln	Fernald	1915	W.
---------	---------	------	----

Warren	Williams	1908	W.
--------	----------	------	----

Hanover	Pickard	1896	W.
---------	---------	------	----

	Williams	1910	R.
--	----------	------	----

Lebanon	Kennedy	1891	R.
---------	---------	------	----

*Bromus altissimus* Pursh.

Haverhill	Fernald	1917	W.
-----------	---------	------	----

Plymouth	Knowlton	1914	W.
----------	----------	------	----

*Bromus Walp. Gray.*

Haverhill	Fernald	1917	W.
-----------	---------	------	----

TABLE

*Nardus stricta* L. (#3.)

Waterville	Lorenz	1913	W.
------------	--------	------	----

#1. Hubbard 1916 Rhod. 13 p.275.

#2. Fernald 1930 Rhod. 32 p.70.

#3. Lorenz 1919 Rhod. 21 p.22.





## AGROPYRON Jacq. in.

Agropyron repens (L.) Beauv.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Agropyron caninum (L.) Beauv., form pubescens (Scribn. &amp; Sm.) Pease &amp;

Moore (#1.)

Piermont	Williams	1908	E.
----------	----------	------	----

Agropyron caninum (L.) Beauv., var. tenerum (Vasey) Pease &amp; Moore (#1.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

## ELYMUS L. Wild Rice.

Elymus virginicus L.

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Elymus robustus Scrib. &amp; J.C.Sm., var. vestitus Wiegand. (#2.)

Plymouth	Knowlton	1916	NE.
----------	----------	------	-----

	Fernald	1915	NE.
--	---------	------	-----

Elymus riparius Wiegand. (#3.)

Woodville	Williams	1908	E.
-----------	----------	------	----

## ASPERELLA Humb. (Hystrix of Manual. #4.)

Asperella Hystrix (L.) Humb. (Hystrix patula of Manual. #5.)

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Asperella Hystrix (L.) Humb., var. Bigeloviana Fernald (#6.)

Hanover	Williams	1910	(#6.)
---------	----------	------	-------

#1. Pease &amp; Moore 1910 Rhod. 12 p.71.

#2. Wiegand 1918 Rhod. 20 p.90.

#3. Wiegand 1918 Rhod. 20 p.84.

#4. Hubbard 1912 Rhod. 14 p.187.

#5. " " " " "

#6. Fernald 1922 Rhod. 24 p.230.



## FAMILY CYPERACEAE

## CYPERUS (Tourn.) L.

*Cyperus rivularis* Kunth.

Hanover	Blampied	1874	NE.
Lebanon	Kennedy	1890	G.
	Pease	1901	NE.

*Cyperus dentatus* Torr.

Wentworth	Williams	1908	NE.
Holderness	Svenson	1921	NE.

*Cyperus strigosus* L.

Lebanon	Kennedy	1891	G.
	Pease	1901	NE.

*Cyperus filiculmis* Vahl., var *macilentus* Fernald.

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

## DULICHNIUM Pers.

*Dulichium arundinaceum* (L.) Britton.

Bethlehem	Faxon	1877, 1878	NE., G.
Wentworth	Williams	1908	G.

## ELECTOCHARIS R.Br.

*Eleocharis Robbinsii* Jakes.

Wentworth	Williams	1908	G.
Enfield	Reported by Jesup (#1.), no specimen seen.		

*Eleocharis olivacea* Torr.

Wentworth	Williams	1908	G.
Lebanon	Reported by Jesup (#1.), no specimen seen.		

*Eleocharis capitata* (L.) R.Br. (*E. tenuis* of Manual #2.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

#1. Jesup 1891 Flora and Fauna p.49.

#2. Blake 1918 Rhod. 20 p.23-24.



*Eleocharis capitata* (L.) R.Br., var. *borealis* Fernald. (#1.)

Warren	Williams	1908	NE.
Wentworth	Williams	1908	NE.

*Eleocharis obtusa* (Willd.) Schultes.

Haverhill	Fernald	1917	NE.
Warren	Williams	1907, 1908	NE., C.
Wentworth	Williams	1908	NE.

*Eleocharis obtusa* (Willd.) Schultes., var. *jejuna* Fernald (#2.)

Lebanon	Kennedy	1890	C.
---------	---------	------	----

*Eleocharis palustris* (L.) R. & S., var. *major* Sonder. (var. *vicens* of Manual. #3.)

Bethlehem	Oakes		SE.
	Taxon	1878	C.
Infield	Kennedy	1890	C.

*Eleocharis acicularis* (L.) R. & S.

Hanover	Williams	1910	C.
Infield	Kennedy	1890	C.
Lebanon	Kennedy	1890	C.

## STENOPHYLLUS Raf.

*Stenophyllus capillaris* (L.) Britton.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

## FIMBRISTYLIS Vahl.

*Fimbristylis autumnalis* (L.) R.Br. (F. Franklin of Manual. #4.)

Wentworth	Williams	1908	C.
-----------	----------	------	----

1. Not Yet Published

2. Svenson 1929 Rhod. 31 p.215.

3. Fernald & Brackett 1929 Rhod. 31 p.61.

4. Britton & Brown Ill. Flora 2nd ed. 1 p.322. 1913





## SCIRPUS (Tourn.) L. Bulrush.

*Scirpus cespitosus* L., var. *callopus* Figel. (11.)

Franconia	Wm. Boott	1855, 1870	N., NW.
	Williams	1894	NE.
	Fernald, Smiley	1915	NK.

*Scirpus hudsonianus* (Michx.) Fernald.

Woodstock	Fernald	1915	NE.
Lincoln	Wm. Boott	1863	NE.
Alexandria	Pease	1926	NE.
Infield	Knowlton	1925	NE.

*Scirpus Torreyi* Onley.

Wentworth	Williams	1908	S.
-----------	----------	------	----

*Scirpus rubrotinctus* Fernald.

Franconia	Faxon	1879	NE.
Woodstock	Fernald	1915	NE.
Warren	Williams	1910	NE.
Lebanon	Fernald, Munnewell	1920	NE.

*Scirpus sylvaticus* L.

Warren	Williams	1910	NE., S.
Hanover	Jesup	1873	S.

*Scirpus atrovirens* Muhl., var. *georgianus* (Harper) Fernald(S. *georgianus* of Manual. (2.)

Bethlehem	Faxon	1879	NE.
Woodstock	Fernald	1915	NE.
Warren	Williams	1910	S.
Lebanon	Kennedy	1896	S.

1. Fernald 1921 Rhod. 23 p.24.

2. " " " " p.134.



*Scirpus cyperinus* (L.) Kunth., var. *pelius* Fernald.

Wentworth	Williams	1910	NE.
-----------	----------	------	-----

*Scirpus pedicellatus* Fernald.

Wentworth	Williams	1910	G.
-----------	----------	------	----

Hanover	Flint	1894	NE.
---------	-------	------	-----

*Scirpus pedicellatus* Fernald., var. *bullus* Fernald.

Warren	Williams	1910	G.
--------	----------	------	----

Hanover	Williams	1910	G.
---------	----------	------	----

*Scirpus atrocinctus* Fernald.

Bethlehem	St. John	1912	NE.
-----------	----------	------	-----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Waterville	Vare	1908	NE.
------------	------	------	-----

Warren	Williams	1910	G.
--------	----------	------	----

Lebanon	Kennedy	1890	G.
---------	---------	------	----

*Scirpus atrocinctus* Fernald., var. *brachypodus* Fernald.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Warren	Williams	1908	G.
--------	----------	------	----

## ERIOPHORUM L. Cotton Grass.

*Eriophorum spiseum* Fernald. (*E. callitrix* of Manual. #1.)

Franconia	Wm. Boott	1855	G.
-----------	-----------	------	----

	Faxon	1895	NE.
--	-------	------	-----

	Fernald, Smiley	1915	NE.
--	-----------------	------	-----

Lebanon	Reported by Jesup (#2.), no specimens seen.		
---------	---	--	--

#1. Fernald 1925 Rhod. 27 p.208.

#2. Jesup 1891 Flora &amp; Fauna p.49.





*Eriophorum tenellum* Nutt.

Franconia	Kennedy	1907	3.
Wentworth	Williams	1908	3.
Infield	Kennedy	1890	NE.

*Eriophorum viridi-carinatum* (Engelm.) Fernald.

Franconia	Wm. Scott	1896	3.
Warren	Williams	1910	3.
Lebanon	Fernald, Munnewell	1922	NE.

*Eriophorum virginicum* L.

Waterville	Ware	1903	BS.
	Cushman	1912	BS.
Warren	Williams	1910	NE.
Canaan	Winslow	1913	NE.
Infield	Kennedy	1890	3.

## HEMICARPHA Nees &amp; Arn.

*Hemicarpha micrantha* (Vahl.) Britton.

Holderness	Faxon	1886	BS.
	Svenson	1921	NE.

## RYNCHOSPORA Vahl. Beak Bush.

*Rynchospora fusca* (L.) Ait.

Wentworth	Williams	1908	3.
-----------	----------	------	----

*Rynchospora alba* (L.) Vahl.

Bethlehem	Faxon		NE.
Lincoln	Kennedy	1891	NE.
Waterville	Lorenz	1907	NE.
Canaan	Winslow	1913	NE.



*Rhynchospora capitellata* (Michx.) Vahl. (*R. glomerata* of Manual. #1.)

Wentworth	Williams	1908	NE., N.
Canaan	Winslow	1918	NE.

*MARISCUS* (Haller) Zinn. (*Cladium* of Manual)

*Mariscus mariscoides* (Muhl.) Kuntze. (*Cladium mariscoides* of Manual. #2.)

Wentworth	Williams	1908	NE.
-----------	----------	------	-----

*CAREX* (Ruppini) L. Sedge.

*Carex scoparia* Schkuhr.

Franconia	Wm. Boott.	1858	N.
Woodstock	Fernald	1915	NE.
Warren	Williams	1908	NE.
Wentworth	Williams	1908	NE.

*Carex scoparia* Schkuhr., forma *moniliformis* Kükenth. (Var. *moniliformis* of Manual. #3.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Carex scoparia* Schkuhr., var. *subturbinata* Fernald & Wiegand. (#4.)

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

*Carex projecta* Mackenzie. (*C. tribuloides*, var. *reducta* of Manual. #5.)

Franconia	Wm. Boott	1858	N.
Woodstock	Fernald	1915	NE.
Hanover	Williams	1912	N.

#1. Blake 1918 Rhod. 20 p.23.

#2. Fernald 1923 Rhod. 25 p.53.

#3. Kükenthal 1909 Pflanzenreich IV 20 p.203.

#4. Fernald & Wiegand 1912 Rhod. 14 p.115-116.

#5. Mackenzie 1908 Bul.for.Bot.Club 35 p.264.



*Carex Crawfordii* Fernald.

Franconia	Faxon	1921	G.
Woodstock	Fernald	1915	NE.
Warren	Williams	1908	G.
Lebanon	Kennedy	1890	G.
	BPH.	1920	NE.

*Carex Crawfordii* Fernald., var. *vicens* Fernald.

Franconia	Em. Boott	1870	G.
Lincoln	Fernald	1915	NE.

*Carex tinctoria* Fernald. (*C. mirabilis*, var. *tinctoria* of Manual. #1.)

Lebanon	BPH.	1920	NE.
Woodstock	Fernald	1915	NE.
Bethlehem	Faxon	1887	G.

*Carex mirabilis* Dewey.

Plymouth	Fernald	1915	NE.
Lebanon	Williams	1896	NE.
	Kennedy	1897	G.
	BPH.	1920	NE.

*Carex tenera* Dewey. (*C. straminea* of Manual. #2.)

Woodstock	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Plymouth	Hoar	1858	NE.
Hanover	Williams	1910	G.
Lebanon	Fernald, Munnewell	1920	NE.

*Carex Merrittii-Fernaldii* Mackenzie. (*C. festucacea* of Manual. #3.)

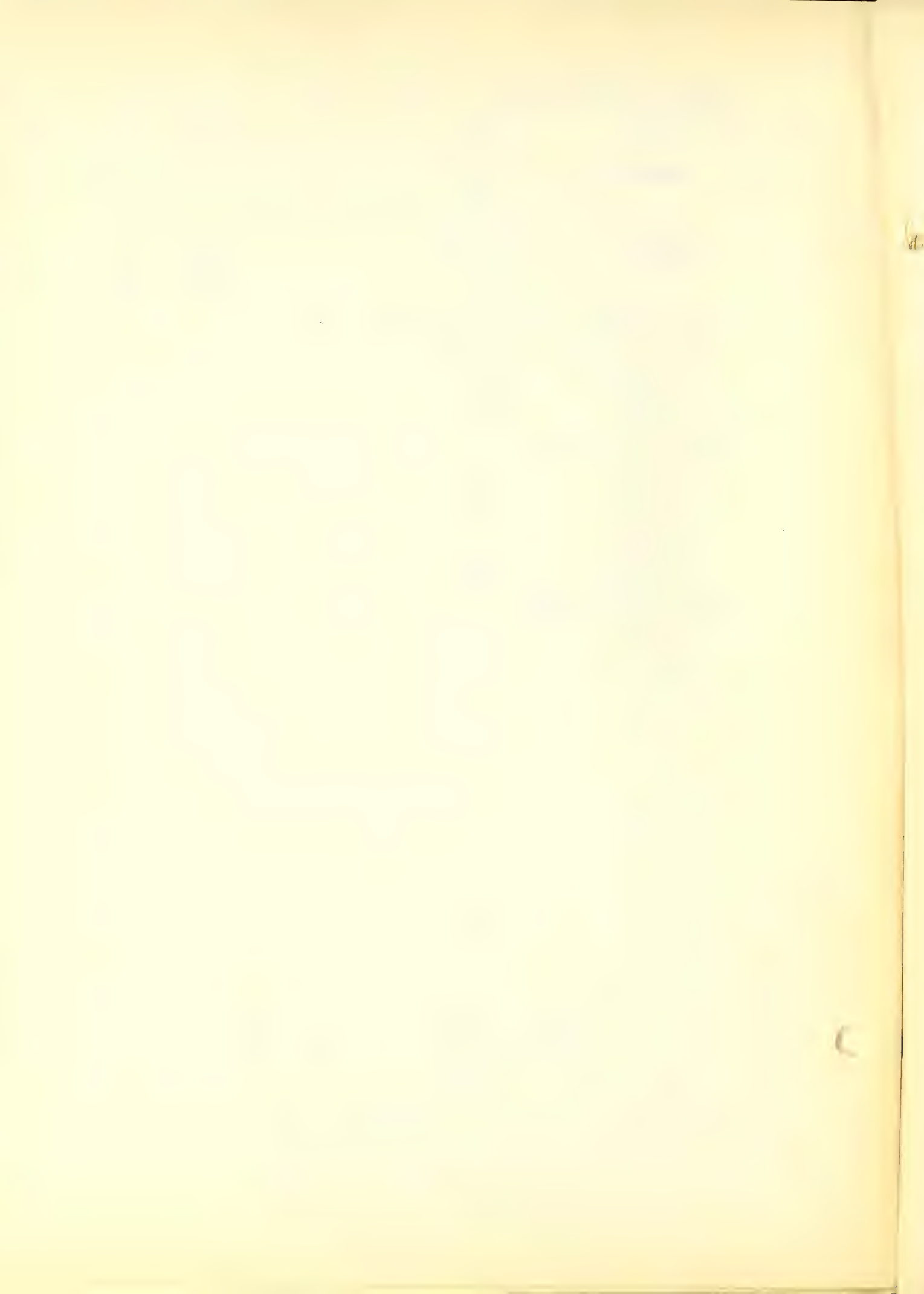
Plymouth	Fernald	1915	NE.
----------	---------	------	-----

#1. Fernald 1915 Rhod. 15 p.186-187.

#2. Fernald 1921 Rhod. 23 p.235.

#3. Mackenzie 1923 Bul.for.Bot.Club 49 p.370.





*Carex Bobbii* Onley.

Easton	Fernald	1917	NE.
--------	---------	------	-----

*Carex foenea* Willd., var. *perplexa* Bailey.

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

*Carex aenea* Fernald.

Franconia	Faxon	1883	G.
-----------	-------	------	----

*Carex interior* Bailey. (*C. scirpoides* of Manual. (1.)

Lebanon	Fernald, Hunnwell	1920	NE.
---------	-------------------	------	-----

*Carex cephalantha* (Bailey) Bick. (*C. stellata*, var. *cephalantha* of Manual. (2.)

Franconia	Kennedy	1897	G.
-----------	---------	------	----

*Carex angustior* Mackenzie (*C. stellata*, var. *angustata* of Manual. (3.)

Franconia	Faxon	1895	NE.
-----------	-------	------	-----

Lincoln	Kennedy	1891	G.
---------	---------	------	----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Wentworth	Williams	1919	G.
-----------	----------	------	----

Lebanon	Faxon	1897	NE.
---------	-------	------	-----

*Carex canescens* L.

Franconia	Faxon	1897	NE.
-----------	-------	------	-----

*Carex canescens* L., var. *subulolicea* Laestad.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

*Carex canescens* L., var. *disjuncta* Fernald.

Warren	Knowlton	1912	NE.
--------	----------	------	-----

*Carex brunnescens* Poir.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

Benton	Williams	1927	NE.
--------	----------	------	-----

1. Mackenzie 1895 Bul.Tor.Bot.Club 20 p.426.

2. Bicknell 1908 Bul.Tor.Bot.Club. 35 p.493.

3. Mackenzie 1931 N.Amer.Flora 18 pt.2 p.112.

11

12

*Carex brunnescens* Poir., var. *sphaerostachya* (Tuckerm.) Mükenth. (#1.)

Francenia	W. Boott	1872	NY.
	Faxon	1883	NY.
	Fernald, Emile	1915	NY.
Woodstock	Fernald	1915	NY.
Winterville	W. Boott	1885	NY.
Lebanon	B.H.	1920	NY.

*Carex bromoides* Schkuhr.

Bethlehem	Pease	1922	NY.
Lebanon	B.H.	1920	NY.

*Carex Deweyana* Schwein.

Francenia	Faxon	1838, 1891, 1895-1897	G., NY.
Woodstock	Fernald	1915	NY.
Holbrook	Faxon	1886	G.
Manover	Edmondson	1906	G.
	Williams	1910	G.
Lebanon	Kennedy	1894	NY.
	Pease	1907	NY.
	B.H.	1920	NY.

*Carex trisperma* Dewey.

Francenia	Tuckerman		G.
Winterville	Kennedy		G.

*Carex rosea* Schkuhr.

Lebanon	Kennedy	1894	G.
	B.H.	1920	NY.

*Carex rosea* Schkuhr., var. *radiata* Dewey.

Woodstock	Fernald	1915	NY.
Lebanon	B.H.	1920	NY.





*Carex Schlenkeri* Schknh.

Haverhill	Fernald	1917	NY.
Plymouth	Fernald	1918	NY.

*Carex cephaloides* Dewey.

Dethlefsen	Pease	1922	NY.
Plymouth	Fernald	1918	NY.
Lebanon	W.H.	1920	NY.

*Carex vulginsidea* Michx.

Warren	Williams	1918	NY.
Hanover	Williams	1918	N.

*Carex stipata* Muhl.

Warren	Williams	1918	N.
Lebanon	Kennedy	1920	N.
	W.H.	1920	NY.

*Carex crinita* Lam.

Lebanon	Kennedy	1920	N.
---------	---------	------	----

*Carex crinita* Lam., var. *gynandra* (Schwein.) Schwein. & Torr.

Lisbon	Faxon	1887	N.
Lebanon	Waton	1920	NY.

*Carex crinita* Lam., var. *simulans* Fernald.

Franconia	Faxon	1890, 1891	N., NY.
	Fernald	1918	NY.

*Carex rigida* Wood., var. *Higelowii* (Torr.) Tuckerm.

Franconia	Wm. Boott	1863	NY.
	Fernald, Smiley	1918	NY.
Benton	Williams	1887	NY.

*Carex torta* Boott.

Franconia	Faxon	1887, 1892	NY., N.
Lebanon	Fernald, Munnevell	1920	NY.



*Carex lenticularis* Michx.

Orford	Grover	Reported by Jesup (#1), no specimen seen	
Enfield	Kennedy	Reported by Jesup (#1), no specimen seen	
Lebanon	Kennedy	1890	G.

*Carex lenticularis* Michx., (var. *Blakei* Dewey) (#2.)

Bethlehem	Wm. Boott	1855	G.
Woodstock	Fernald	1915	NE.

*Carex lenticularis* Michx., (var. *albi-montana* Dewey) (#3.)

Franconia	Wm. Boott	1855	G.
-----------	-----------	------	----

*Carex acuta* L. (*C. Goodenowii* of Manual. #4.)

Dorchester	Edmondson	1908	G.
------------	-----------	------	----

*Carex Haydeni* Dewey. (*C. stricta*, var. *decora* of Manual #5.)

Franconia	Faxon	1888	NE.
Ashland	Fernald	1916	NE.
Lebanon	BFH	1920	NE.

*Carex strictior* Dewey (#6.)

Franconia	Wm. Boott	1855	G.
Lisbon	Graves (Have not seen specimen)	1893	(#7.)

*Carex pauciflora* Lightf.

Bethlehem	Wm. Boott	1855	G.
	Faxon	1879	NE.
Franconia	Hoar	1858	NE.

#1. Jesup 1891 Flora & Fauna p. 50.

#2. Not a good Variety

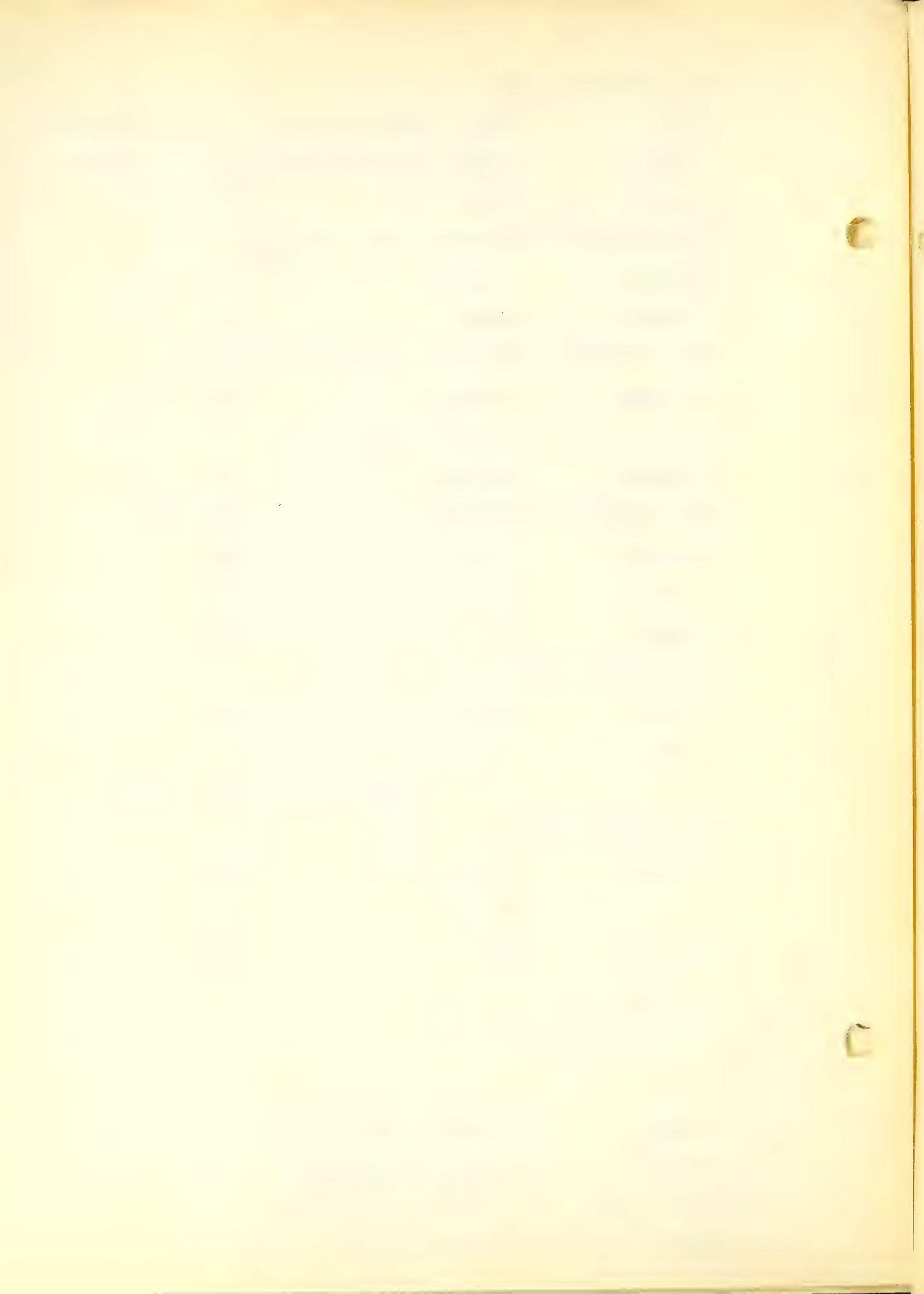
#3. " " " "

#4. Mackenzie Bul. Torr. Bot. Club 50 p. 343

#5. Mackenzie 1915 Bul. Torr. Bot. Club 42 p. 410.

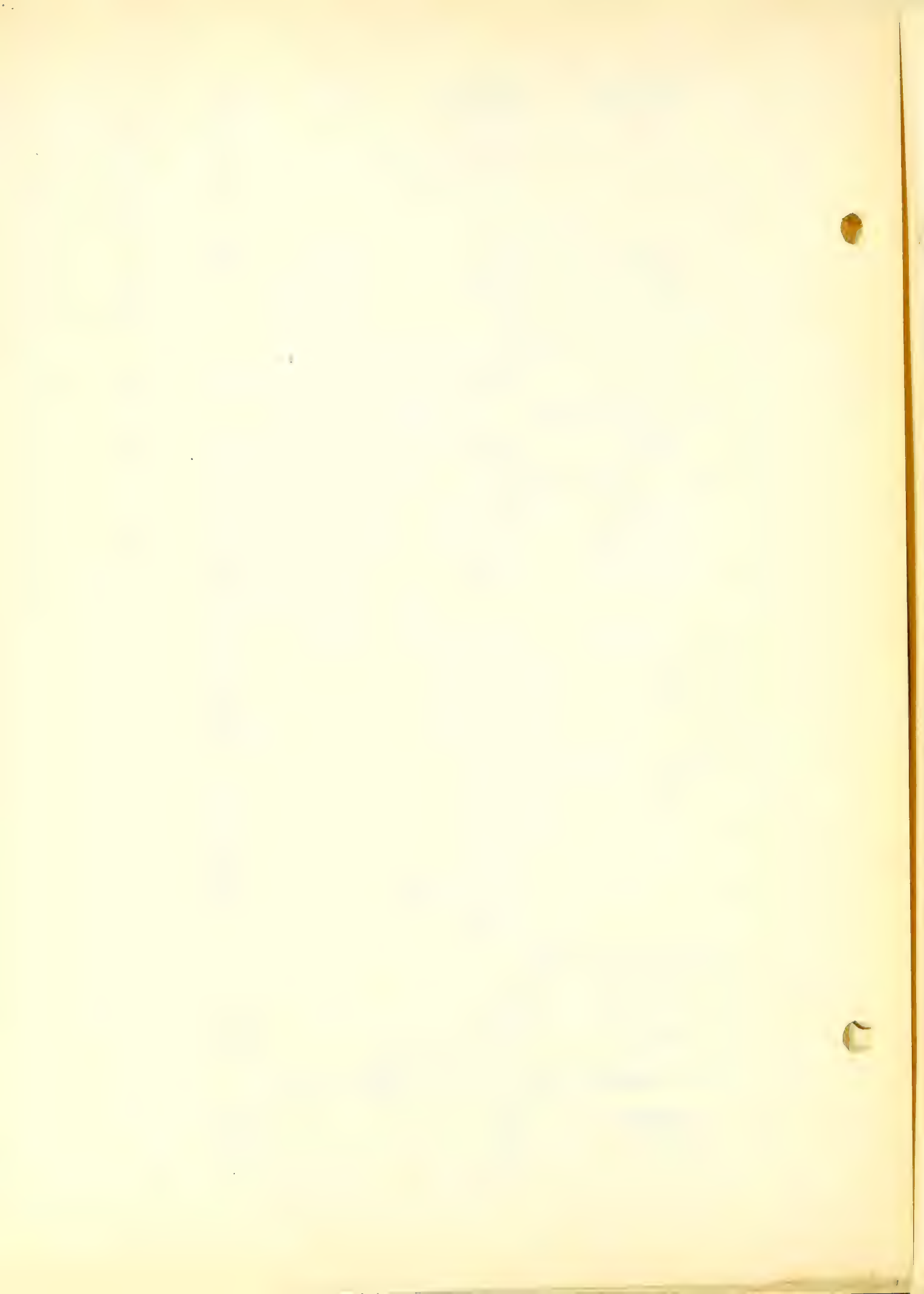
#6. Mackenzie 1915 Bul. Torr. Bot. Club 42 p. 415

#7. Mackenzie 1915 Bul. Torr. Bot. Club 42 p. 418.



Franconia	Wm. Boott	1863	G.
	Faxon	1887	G.
	Fernald, Smiley	1915	NE.
	Oakes		BS.
Lisbon	Faxon	1887	G.
Lincoln	Lorenz		NE.
<i>Carex leptalea</i> Wahlenb.			
Lebanon	Eaton, Fernald, Munnewell	1920	NE.
<i>Carex virescens</i> Muhl., var. <i>Swanii</i> Fernald			
Hanover	Williams	1910	NE.
<i>Carex gracillima</i> Schwein.			
Bethlehem	Pease	1922	NE.
Franconia	Wm. Boott	1855	G.
		1895	NE.
Woodstock	Fernald	1915	NE.
Lebanon	Kennedy	1887	G.
	BPH	1920	NE.
<i>Carex scirpoides</i> Michx.			
Franconia	Oakes	1827	G.
	Flake	1865	G.
	Fernald, Smiley	1915	NE.
	Tackerman		BS.
<i>Carex umbellata</i> Schkuhr.			
Holderness	Fernald	1915	NE.
Lebanon	Fernald, Munnewell	1920	NE.
<i>Carex umbellata</i> Schkuhr., var. <i>breviostria</i> Boott.			
Franconia	Faxon	1890	NE.
Ashland	Fernald	1916	NE.





*Carex deflexa* Hornem.

Bethlehem	Wm. Boott	1855	G.
Franconia	Pringle	1878	BS.
	Faxon	1893, 1896	NE.
	Fernald, Smiley	1915	NE.

*Carex albicans* Willd.

Franconia	Faxon	1893	NE.
Lebanon	Kennedy	1887, 1889	G., NE.
	Pease	1907	NE.
	SPH	1920	NE.

*Carex comans* Bailey.

Bethlehem	Conant		NE.
Franconia	Wm. Boott	1855	G.
	Faxon	1838	NE.
Lincoln	Kennedy	1838	NE.
	Wm. Boott	1855	NE.
	Fernald	1915	NE.
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
Lebanon	Kennedy	1886, 1887	G., NE.
	SPH	1920	NE.

*Carex novae-angliae* Schwein.

Franconia	Wm. Boott	1870	NE.
	Faxon	1891, 1893, 1895, 1897	NE.
Lincoln	Fernald	1915	NE.
Benton	Williams	1907	NE.
Warren	Knowlton	1919	NE.
Dorchester	Pease	1926	NE.
Holderness	Fernald	1915	NE.



*Carex pennsylvanica* Lam.

Lebanon	RTH	1920	NE.
---------	-----	------	-----

*Carex pennsylvanica* Lam., var. *lacorum* (Willd.) Fernald.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Holderness	Fernald	1915	NE.
------------	---------	------	-----

Ashland	Fernald	1916	NE.
---------	---------	------	-----

*Carex pubescens* Muhl.

Bethlehem	Pease	1921	NE.
-----------	-------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Lebanon	Barrows	Reported by Jesup (#1.), have seen no specimen.	
---------	---------	---	--

*Carex pallescens* L.

Lisbon	Faxon	1887	NE.
--------	-------	------	-----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Benton	Williams	1907	NE.
--------	----------	------	-----

Warren	Knowlton	1919	NE.
--------	----------	------	-----

Lebanon	Kennedy	1891	NE.
---------	---------	------	-----

*Carex paucercula* Michx.

Franconia	Hoar	1858	NE.
-----------	------	------	-----

	Wm. Boott	1863	NE.
--	-----------	------	-----

	Faxon	1887	NE.
--	-------	------	-----

	Fuller	1890	NE.
--	--------	------	-----

	Williams	1894	NE.
--	----------	------	-----

	Fernald, Smiley	1915	NE.
--	-----------------	------	-----

	Oakes		NE.
--	-------	--	-----

	Tuckerman		NE.
--	-----------	--	-----

*Carex limosa* L.

Bethlehem	Wm. Boott	1855	NE.
-----------	-----------	------	-----





Franconia	Wm. Boott	1863	NE.
	Faxon	1887, 1888	G.
	Fernald, Smiley	1915	NE.
Lisbon	Faxon	1887	NE., G.
<i>Carex prasina</i> Vahlenb.			
Lebanon	Kennedy	1887	NE.
<i>Carex pedunculata</i> Muhl.			
Woodstock	Fernald	1915	NE.
Lebanon	Kennedy	1886, 1889	NE., G.
	BFH	1920	NE.
<i>Carex plantaginosa</i> Lam.			
Hanover	Edmondson	1908	G.
<i>Carex platyphylla</i> Carey.			
Bath	Pease	1926	NE.
Lebanon	Kennedy	1887	G.
<i>Carex digitalis</i> Willd.			
Hanover	Williams	1910	G.
Lebanon	BFH	1920	NE.
<i>Carex leptoneuria</i> Fernald. ( <i>C. laxiflora</i> , var. <i>leptoneuria</i> of Manual #1.)			
Franconia	Faxon	1888	NE.
Lincoln	Wm. Boott	1855	G.
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
<i>Carex ormostachya</i> Wiegand. ( <i>C. laxiflora</i> of Manual #2.)			
Franconia	Faxon	1888, 1896	NE.
Hanover	Edmondson	1908	G.
Lebanon	BFH	1920	NE.

1. Fernald 1914 Rhod. 16 p.214

2. Wiegand 1922 Rhod. 24 p.196



*Carex blanda* Dewey. (*C. laxiflora*, var. *blanda* of Manual. #1.)

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Carex conoidea* Schkuhr.

Holderness	Faxon	1886	NE.
------------	-------	------	-----

Lebanon	Fernald, Munnewell	1920	NE.
---------	--------------------	------	-----

*Carex grisea* Wahlenb.

Bath	Fernald	1917	NE.
------	---------	------	-----

*Carex granularis* Muhl.

Lebanon	Barrows	Reported by Jesup, (#2.) no specimen seen.	
---------	---------	--	--

*Carex flava* L.

Lisbon	Faxon	1887, 1889	NE., 2.
--------	-------	------------	---------

Enfield	Knowlton	1925	NE.
---------	----------	------	-----

Lebanon	Fernald, Munnewell	1920	NE.
---------	--------------------	------	-----

*Carex cryptolepis* Mack. (*C. flava*, var. *elatio* of Manual in part. #3.)

Wentworth	Williams	1908	3.
-----------	----------	------	----

*Carex Oederi* Retz., var. *pumila* (Cosson & Germain) Fernald.

Franconia	Wm. Boott	1861	0.
-----------	-----------	------	----

*Carex longirostris* Torr.

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Ashland	Fernald	1916	NE.
---------	---------	------	-----

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Carex arctata* Boott.

Franconia	Faxon	1883	NE.
-----------	-------	------	-----

Lisbon	Faxon	1888, 1890	NE.
--------	-------	------------	-----

Lincoln	Wm. Boott	1855	NE.
---------	-----------	------	-----

Holderness	Fernald	1915	NE.
------------	---------	------	-----

Lebanon	Pease	1907	NE.
---------	-------	------	-----

	BPH	1920	NE.
--	-----	------	-----

#1. Wiegand 1922 Rhod. 24 p.194.

#2. Jesup 1891 Flora and Fauna p.50.

#3. Mackenzie 1914 Torrey 14 p.157.



*Carex Kneiskernii* Dewey (#1.)

Hebron	Bill	1907	1.
--------	------	------	----

*Carex debilis* Michx., var. *hodgei* Bailey

Franconia	Faxon	1883	11.
	Kennedy	1891	2.
Lincoln	Wm. Boott	1858	10.
Manover	Williams	1910	1.
Lebanon	Kennedy	1894	1.
	W.H.	1920	10.

*Carex debilis* Michx., var. *strictior* Bailey.

Franconia	Wm. Boott	1861, 1863	6.
	Faxon	1883	1.
Lincoln	Fernald	1915	10.
Woodstock	Fernald	1915	10.
Benton	Williams	1907	1.

*Carex debilis* Michx., var. *interjecta* Bailey

Woodstock	Fernald	1915	1.
-----------	---------	------	----

*Carex scabrata* Schwein.

Bethlehem	Conant		1.
Lincoln	Wm. Boott	1855	1.
	Kennedy	1893	1.
	Fernald	1915	10.
	Ligg	1915	10.
Holderness	Fernald	1915	10.
Lebanon	W.H.	1920	10.

*Carex lasiocarpa* Ehrh. (1. *filiformis* of Manual. #2.)

Bethlehem	Faxon	1873	6.
-----------	-------	------	----

#1. Dewey 1846 Am. Jour. Sci. 2nd Series 2 p. 247.

#2. Kükenthal 1909 Pflanzenreich IV 20 p. 747.





*Carex Houghtonii* Torr.

Franconia	Faxon	1888, 1889	W., N.
-----------	-------	------------	--------

*Carex oligosperma* Michx.

Bethlehem	Pringle	1877	W.
-----------	---------	------	----

	Faxon	1877, 1878, 1879	W.
--	-------	------------------	----

Franconia	Faxon	1891	W.
-----------	-------	------	----

	St. John	1912	W.
--	----------	------	----

	Fernald, Smiley	1915	W.
--	-----------------	------	----

Lincoln	Kennedy	1891	W.
---------	---------	------	----

*Carex Pseudo-hypericæ* L.

Canaan	Farrows	Reported by Jesup (1.), no specimen seen.	
--------	---------	---	--

*Carex hystericina* Muhl.

Monroe	Feece	1926	W.
--------	-------	------	----

Lebanon	BSU	1929	W.
---------	-----	------	----

*Carex lurida* Vahlenb.

Bethlehem	St. John	1912	W.
-----------	----------	------	----

Thornton	Feece	1903	W.
----------	-------	------	----

Franconia	Williams	1894	W.
-----------	----------	------	----

*Carex lurida* Vahlenb., var. *gracilis* (Boott) Bailey.

Franconia	Wm. Boott	1861	W.
-----------	-----------	------	----

*Carex lupulina* Muhl.

Wentworth	Williams	1908, 1910	W., N.
-----------	----------	------------	--------

*Carex lupulina* Muhl., var. *pedunculata* Dewey.

Bristol	Rich	1893	W.
---------	------	------	----

Lebanon	Kennedy	1890	W.
---------	---------	------	----



*Carex intumescens* Budge.

Franconia	St. John	1912	NE.
Woodstock	Fernald	1915	NE.
Warren	Williams	1907	N.
Lebanon	Kennedy	1937	N.

*Carex intumescens* Budge., var. *Fernaldii* Bailey.

Lincoln	Fernald	1915	NE.
---------	---------	------	-----

*Carex folliculata* L.

Canaan	Winslow	1918	NE.
--------	---------	------	-----

*Carex Michauxiana* Boeckl.

Bethlehem	Faxon	1877	N.
Franconia	Wm. Boott	1861	N.
	Fuller	1890	NE.
	Faxon	1891	N.
	St. John	1912	NE.
	Fernald, Smiley	1915	NE.
Woodstock	Fernald	1915	N.
Waterville	Wm. Boott	1860	NE.

*Carex vesicaria* L.

Franconia	Noer	1853	NE.
	Faxon	1887	NE.
Hanover	Williams	1910	N.
Lebanon	IFN	1920	NE.

*Carex vesicaria* L., var. *monile* Fernald

Franconia	Wm. Boott	1855	NE.
	Faxon	1886	NE.
Holderness	Faxon	1886	NE.





*Carex vesicaria* L., var. *jejuna* Fernald.

Franconia	Faxon	1887	3.
-----------	-------	------	----

*Carex rostrata* Stokes.

Bethlehem	Faxon		32.
-----------	-------	--	-----

Franconia	Wm. Scott	1855	32.
-----------	-----------	------	-----

	Faxon	1879, 1890	31., 3.
--	-------	------------	---------

	Fuller	1890	32.
--	--------	------	-----

	Fernald, Smiley	1915	32.
--	-----------------	------	-----

	Thoreau		32.
--	---------	--	-----

*Carex rostrata* Stokes., var. *utriculata* (Scott) Bailey.

Bethlehem	Faxon		3.
-----------	-------	--	----

Franconia	Faxon	1879	3.
-----------	-------	------	----

*Carex bullata* Schkuhr.

Ganaen	Farrows	Reported by Jessup(41.), no specimen seen.	
--------	---------	--	--

*Carex Tuckermanni* Dewey.

Bethlehem	Conant	1878	32.
-----------	--------	------	-----

Bristol	Fuller	1875	32.
---------	--------	------	-----

Lebanon	Kennedy	1890	3.
---------	---------	------	----

## OTHER APALES

## FAMILY ARACEAE

*ARISAEMA* Martius.*Arisaema triphyllum* (L.) Schott. Jack-In-The-Pulpit

Plymouth	Knowlton	1915	32.
----------	----------	------	-----

Holderness	Gundersen, Lowenstein	1914	32.
------------	-----------------------	------	-----

Lebanon	BPH	1920	32.
---------	-----	------	-----



*Arisaema Stewardsonii* Britton (#1.)

Lebanon BPH 1920 M.

*PELTANDRA* Raf. Arrow Arum

*Peltandra virginica* (L.) Kunth.

Holderness Sandersen, Lowenstein 1914 M.

Canaan Jesup Reported by Jesup (#2.), no specimen seen.

Enfield Atwell Reported by Jesup (#2.), no specimen seen.

*ACORUS* L. Sweet Flag

*Acorus Calamus* L.

Lebanon Fernald, Hunnell 1920 M.

FAMILY LEMNACEAE

*LEMNA* L. Duckweed

*Lemna minor* L.

Lebanon BPH 1920 M.

Reported by Jesup (#2.), from Hanover and Enfield, but no specimens seen.

ORDER XYRIDALES

FAMILY ERIOGONACEAE

*ERIOGONUM* (Gronov.) L. Pipewort

*Eriogonum septangulare* With. (*E. articulatum* of Manual in part. #3.)

Canaan Winslow 1913 M.

FAMILY HYDRICACEAE

*XYRIS* (Gronov.) L. Yellow-Eyed Grass

#1. Fernald 1921 Rhod. 23 p.136.

#2. Jesup 1891 Flora and Fauna p.47.

#3. Robinson & Fernald 1909 Rhod. 11 p.40.



*Xyris montana* Vies.

Franconia	Fuller	1890	Fl.
-----------	--------	------	-----

Lincoln	Kennedy	1891	Fl.
---------	---------	------	-----

Canaan	Reported by Jesup(1.), no specimen seen.		
--------	--	--	--

*Xyris torta* Ga. (*X. flexuosa* of Manual. 2.)

Franconia	Taxon	1890	Fl.
-----------	-------	------	-----

## FAMILY PONTEDERIACEAE

## PONTEDERIA L. Pickerel-Weed

*Pontederia cordata* L.

Wentworth	Williams	1913	Fl.
-----------	----------	------	-----

## ORDER LILIALES

## FAMILY JUNCACEAE

## JUNCUS (Tourn.) L. Rush.

*Juncus bufonius* L.

Lebanon	Kennedy	1890	Fl.
---------	---------	------	-----

*Juncus trifidus* L.

Franconia	Thoreau	1853	Fl.
-----------	---------	------	-----

	Wm. Scott	1867	Fl.
--	-----------	------	-----

	Fernald, Smiley	1915	Fl.
--	-----------------	------	-----

	Conant		Fl.
--	--------	--	-----

Benton	Williams	1898, 1907	Fl., Fr.
--------	----------	------------	----------

*Juncus macer* A. F. Gray (*J. tenuis* of Manual. 2.)

Warren	Williams	1908, 1913	Fl., Fr.
--------	----------	------------	----------

#1. Jesup 1891 Flora and Fauna p.46.

#2. *X. torta* 1816 *X. flexuosa* 1860

#3. Fernald 1930 Jour. of Bot. Brit. &amp; For. 1816 p. 364.





Waterville	Ware	1905	VI.
Benton	Williams	1908	2.
<i>Juncus macer</i> S.F.Gray., var. <i>Williamsii</i> (Fernald)Fernald.			
(J.tenuis var. <i>Williamsii</i> of Manual. #1.)			
Franconia	Kennedy	1907	2.
Warren	Williams	1908	2.
Woodsville	Williams	1908	2.
<i>Juncus ludleyi</i> Wiegand.			
Monroe	Pease	1926	III.
Beth	Fernald	1917	III.
<i>Juncus Greenei</i> Lakes & Tuckerm.			
Warren	Williams	1908	2.
New Hampton	Forbes	1904	2.
Waverhill	Reported by Jesup (#2.), no specimen seen.		
<i>Juncus filiformis</i> L.			
Franconia	Fernald	1915	III.
Enfield	Kennedy	1920	III.
<i>Juncus effusus</i> L., var. <i>deciplens</i> Buchenau (#3.)			
Woodstock	Fernald	1915	III.
Plymouth	Knowlton	1922	III.
<i>Juncus effusus</i> L., var. <i>solutus</i> Fernald & Wiegand (#3.)			
Warren	Williams	1908	2.
Plymouth	Knowlton	1915	III.
<i>Juncus effusus</i> L., var. <i>Pylaei</i> (Laharpe)Fernald & Wiegand. (#3.)			
Waterville	Ware	1905	III.
Warren	Williams	1908	III.

#1. Fernald 1930 Jour. of Bot. Brit. & For. #816 p.364.

#2. Jesup 1891 Flora & Fauna p.46.

#3. Fernald & Wiegand 1910 Rhod. 12 p.81.



*Juncus brevicaudatus* (Engelm.) Fernald.

Bethlehem	Faxon	1877	9.
Franconia	Wm. Boott	1883	7.
	Fuller	1890	XX.
Lincoln	Kennedy	1891	XX.
Waterville	Wm. Boott	1892	9.
Benton	Eggleston	1898	9.
	Williams	1908	9.
Warren	Williams	1908	XX.
Wentworth	Williams	1908	XX.
Plymouth	Knowlton	1925	XX.

*Juncus canadensis* J. Gay.

Haverhill	Fernald	1917	XX.
Wentworth	Williams	1908	9.

*Juncus pelocarpus* Mey.

Wentworth	Williams	1908	9.
-----------	----------	------	----

Reported by Jesup (fl.) from Enfield, no specimen seen.

*Juncus articulatus* L.

Conroe	Pease	1926	XX.
Bath	Fernald	1917	XX.

*Juncus articulatus* L., var. *obtusatus* Engelm.

Lebanon	Pease	1901	XX.
---------	-------	------	-----

## LUZULA DC. Wood Rush

*Luzula saltuensis* Fernald.

Franconia	Faxon	1887	XX.
-----------	-------	------	-----





anaan	Reported by Jesup(#1.), no specimen seen.		
Hanover	French Reported by Jesup(#1.), no specimen seen.		
Lebanon	Kennedy	1927, 1935	9.
	Pease	1977	9.
	Fernald, Munneville	1929	9.
<i>Luzula parviflora</i> (Nutt.) Desv.			
Frankonia	Seare	1873	9.
	Wm. Scott	1863	9.
	Fernald, Smiley	1915	9.
	Faxon	1892	9.
Lincoln	Kennedy	1893	9.
Benton	Williams	1907	9.
<i>Luzula stricta</i> (L.) DC.			
Frankonia	Fernald, Smiley	1915	9.
Benton	Reported by Jesup(#1.), no specimen seen.		
<i>Luzula campestris</i> (L.) DC., var. <i>multiflora</i> (Nutt.) Celak.			
Woodstock	Fernald	1915	9.
Waterville	Cushman	1912	9.
Benton	Williams	1907	9.
Lebanon	RFH	1929	9.

## FAMILY LILIACEAE

*Veratrum* (Tourn.) L. False Hellebore.*Veratrum viride* Ait. Indian Poke

Frankonia	Fernald	1915	9.
Hollerness	Gundersen, Lowenstein	1914	9.

*Uvularia* L. Bellwort*Uvularia sessilifolia* L. (*Oakesia sessilifolia* of Nutt. #2.)

#1. Jesu. 1891 Flora & Fauna p. 46.

#2. Wiegand & Ames Cornell Univ. Agr. Exp. Sta. Memoir 92 p. 144.



Woodstock	Fernald	1915	NE.
Warren	Williams	1907	G.
Plymouth	Knowlton	1915	NE.
Holderness	Sundersen, Lowenstein	1914	NE.
Lebanon	Maskins	1915	NE.
	Fernald, Munnewell	1920	NE.

#### ALLIUM (Tourn.) L. Onion.

##### *Allium tricoccum* Ait. Wild Leek

Lebanon	Kennedy	1890	G.
---------	---------	------	----

##### *Allium Schoenoprasum* L., var. *sibiricum* (L.) Hartm.

Bath	Pease	1926	NE.
------	-------	------	-----

#### HEMEROCALLIS L. Day Lily.

##### *Hemerocallis fulva* L.

Warren	Williams	1908	G.
--------	----------	------	----

#### LILIUM (Tourn.) L. Lily

##### *Lilium philadelphicum* L. Wood Lily.

Lyman	Pease	1926	NE.
Warren	Williams	1907, 1913	G.
Holderness	Sundersen, Lowenstein	1914	NE.

##### *Lilium philadelphicum* L., forma *flaviflorum* Williams. (#1.)

Warren	Williams	1913	G.
--------	----------	------	----

##### *Lilium canadense* L. Wild Yellow Lily.

Lebanon	BPH	1920	NE.
---------	-----	------	-----

#### ERYTHRONIUM L. Dog's-Tooth Violet

#1. Williams 1913 Rhod. 15 p. 218.



*Erythronium americanum* Ker. Yellow Adder's Tongue.

Franconia	Faxon	1837, 1839	G., NE.
Lebanon	Kennedy	1835	G.
	Fernald, Munneville	1920	NE.

## CLINTONIA Raf.

*Clintonia borealis* (Alt.) Raf.

Franconia	Fernald, Smiley	1915	NE.
Lincoln			G.
Benton	Flint	1871	NE.
	Williams	1907	G.
Lebanon	Kennedy	1837	G.
	BFH	1920	NE.

## SMILACINA Desf. False Solomon's Seal.

*Smilacina racemosa* (L.) Desf. False Spikenard.

Warren	Williams	1908	G.
Plymouth	Knowlton	1915	NE.
Holderness	Sundersen, Lowenstein	1914	NE.
Lebanon	BFH	1920	NE.

*Smilacina stellata* (L.) Desf.

Ashland	Fernald	1916	NE.
Hanover	Stewart	1909	G.
	Haskins	1915	NE.
Lebanon	BFH	1920	NE.

*Smilacina trifolia* (L.) Desf.

Franconia	Faxon	1836	NE.
	Hoar	1838	NE.
Woodstock	Faxon	1836	NE.
Hanover	Edmondson	1908	G.
Lebanon	Haskins	1915	NE.





*MAIANTHUM* (Weber in) Viggers.

*Maianthum canadense* Leaf.

Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	BFH	1922	NE.

*STREPTOPUS* Michx. Twisted-Stalk.

*Streptopus amplexifolius* (L.) DC.

Bethlehem	Faxon	1879	G.
Franconia	Faxon	1892	NE.
	Fernald	1915	NE.
Lincoln	Wm. Boott	1855	G.
Benton	Williams	1907	NE.

Reported by Jesup (#1.) from Groton and Enfield, but no specimens seen.

*Streptopus roseus* Michx.

Franconia	Fernald	1915	NE.
Lincoln	Wm. Boott	1855	G.
Woodstock	Fernald	1915	NE.
Waterville	Merrill	1853	NY.
Benton	Williams	1907	G.
Warren	Knowlton	1919	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
	Fernald	1915	NE.
Lebanon	Kennedy	1886, 1887	G.
	Haskins	1915	NE.
	Fernald, Munnewell	1920	NE.

*POLYGNATHUM* (Tourn.) Hill. Solomon's Seal.



*Polygonatum biflorum* (Walt.) Ell.

Woodstock	Fernald	1915	NE.
Plymouth	Knowlton	1919	NE.
Hanover	Haskins	1915	NE.

*WEDDELLA* (Gronov.) L. Indian Cucumber-Root.

*Weddella virginiana* L.

Franconia	Faxon	1895	G.
	Shaw		G.
Woodstock	Fernald	1915	NE.
Waterville	Cushman	1912	NE.
Plymouth	Knowlton	1915	NE.
Holderness	Sundersee, Lowenstein	1914	NE.
Bristol	Rich	1893	G.
Lebanon	R.H.	1920	NE.

*TRILLIUM* L.

*Trillium erectum* L.

Lincoln	Wm. Boott	1855	G.
Waterville	Merrill	1853	NE.
Hanover	Hickard	1846	NE.
	Haskins	1915	NE.
Lebanon	Fernald, Munnewell	1920	NE.

*Trillium cernuum* L.

Hanover	Hitchcock	1883	G.
Lebanon	Kennedy	1887	NE.

*Trillium undulatum* Willd.

Franconia	Wm. Boott	1855	G.
Lincoln	Wm. Boott	1855	G.





Woodstock	Fernald	1915	NH.
Holderness	Gundersen, Lowenstein	1914	NH.
Bridgewater	Horner		NH.
Manover	Hitchcock	1883	NH.
Lebanon	BTH	1920	NH.

SMILAX (Tourn.) L. Green Brier.

Smilax herbacea L.

Plymouth	Fernald	1915	NH.
Holderness	Gundersen, Lowenstein	1914	NH.
Lebanon	Kennedy	1890	G.
	Fernald, Hunnewell	1920	NH.

FAMILY IRIDACEAE

IRIS (Tourn.) L.

Iris versicolor L.

Warren	Williams	1913	NH.
Holderness	Gundersen, Lowenstein	1914	NH.
Lebanon	BTH	1920	NH.

SIEYRINCHIUM L. Blue-Eyed Grass.

Sieyrinchium angustifolium Mill.

Franconia	Paxon	1892, 1895, 1897	G., NH.
Lincoln	Fernald	1915	NH.
Holderness	Gundersen, Lowenstein	1914	NH.
Lebanon	BTH	1920	NH.



## ORCHID ORCHIDALES

## FAMILY ORCHIDACEAE

## CYPRIPEDIUM L. Lady's Slipper.

*Cypripedium arietinum* R.Br. Ram's Head Lady's Slipper.

Lyme Reported by Jesup(#1.), no specimen seen.

Bridgewater Ware 1901 ES.

Hanover Eggleston 1933 C.

*Cypripedium parviflorum* Salisb., var. *pubescent* (Willd.) Knight.

## Yellow Lady's Slipper

Lebanon Kennedy 1920 C.

Hanover Reported by Jesup(#1.), no specimen seen.

*Cypripedium reginae* Walt. (*C. hirsutum* of Manual #2.) Showy Lady's Slipper.

Reported by Jesup(#1.), from Hanover and Lebanon, no specimens seen.

Reported by Schweinfurth(#3.) from Causton, no specimen seen.

*Cypripedium acaule* Ait. Stemless Lady's Slipper.

Franconia Faxon 1893, 1933 C.

Ahler, Russell 1917 C.

Lebanon BTH, Eaton 1920 C., G.

## ORCHIS (Tourn.) L.

*Orchis spectabilis* L. Showy Orchis.

Lebanon Kennedy 1920 C.

Hervey 1916 C.

Fernald, Hunnewell 1920 C.

#1. Jesup 1891 Flora & Fauna p. 44.

#2. Schweinfurth 1925 Rhod. 27 p. 107.

#3. Schweinfurth 1925 Rhod. 27 p. 107.



## HABENARIA Willd. Fringed Orchis.

*Habenaria viridis* (L.) R.Br., var. *bracteata* (Wuhl.) Gray. (*H. bracteata* of Manual, in part. #1.)

Franconia	Faxon	1879	G.
	Shaw		G.
Lincoln	Kennedy	1891	G.
Warren	Williams	1907	G.

*Habenaria hyperborea* (L.) R.Br.

Lebanon	Kennedy	1890	G.
	Haskins	1915	HL.

*Habenaria dilatata* (Pursh) Gray.

Franconia	Russell, Ahler	1917	HL.
	Shaw		G.
Woodstock	Flint	1871	HL.
Holderness	Gundersen, Lowenstein	1914	HL.
Hanover	Reported by Jesup (#2.), no specimen seen.		

*Habenaria clavellata* (Michx.) Spreng.

Franconia	Packerman		HL.
Lincoln	Dr. Scott	1893	G.
Holderness	Gundersen, Lowenstein	1914	HL.

*Habenaria obtusata* (Pursh) Richards.

Bethlehem	Pease	1912	HL.
Franconia	Fuller	1890	HL.
	Collins, Thornton	1891	HL.
	Fernald, Smiley	1915	HL.
Waterville	Faxon	1875	HL.

#1. Fernald 1926 Rhod. 28 p. 172.

#2. Jesup 1891 Flora & Fauna p. 43.





*Habenaria Hookeri* Torr.

Franconia	Faxon	1891, 1892	NE., G.
	Haves	1903	NE.
Lincoln	Fernald	1915	NE.
Lisbon	Hall	1905	G.
Bentworth	Williams	1910	NE.
Holderness	Faxon	1886	NE.
	Gundersen, Lowenstein	1914	NE.
	Fernald	1915	NE.
Lebanon	L.H.F.	1883	NE.
	W.H.	1920	NE.

Reported by Jesup (#1.) from Lyme and Hanover, no specimens seen.

*Habenaria orbiculata* (Pursh) Torr.

Bethlehem	Williams	1894	NE.
Franconia	L. Faxon	1888	G.
	Faxon	1891, 1895	NE., G.
Benton	Williams	1907	NE.
Warren	Williams	1907	G.
Holderness	Gundersen, Lowenstein	1914	NE.

*Habenaria macrophylla* Goldie.

Franconia	Shaw	1917	G.
Lisbon	Hall	1905	G.
Warren	Williams	1908	G.
Lebanon	Hervey	1916	NE.

*Habenaria lacera* (Michx.) B.Br.

Woodstock	Fernald	1915	NE.
Warren	Williams	1910	G.



Holderness	Gundersen, Lowenstein	1914	NE.
	Hove	1916	NE.
Lebanon	Kennedy	1885, 1890	G., NE.
	Hervey	1916	NE.
<i>Habenaria psychodes</i> (L.) Sw.			
Piermont	Williams	1917	G.
Tentworth	Williams	1918	NE.
Holderness	Hove	1916	NE.
Lebanon	Hervey	1917	NE.
<i>Habenaria flabriata</i> (Ait.) F. Fr.			
Bethlehem	Gollins	1891	G.
Franconia	Shaw		G.
Lincoln	Waxon	1895	G.
Woodstock	Fernald	1913	NE.
Orford	Williams	1907	G.
Plymouth	Sargent		NE.
Bristol	Horner		NE.
Lebanon	Kennedy	1890	NE.

*POGONIA* Juss.

*Pogonia ophioglossoides* (L.) Ker.

Franconia	Shaw		G.
Holderness	Gundersen, Lowenstein	1914	NE.
Hanover	Reported by Jesup (#1.), no specimen seen.		
Canaan	Reported by Jesup (#1.), no specimen seen.		
Enfield	Kennedy	1890	G.





## ARETHUSA (Gronov.) L.

*Arethusa bulbosa* L.

Hanover	Ruggles		G.
Lisbon	Paxon	1887	G.

Reported from Canaan by Jesup (#1.), no specimen seen.

*SP. INVENTUM* Richard. Lady's Tresses.*Spiranthes gracilis* (Bigel.) Beck.

Plymouth	Fernald	1915	RE.
Holderness	Gundersen, Lowenstein	1914	RE.
Hanover	Williams	1910	G.
Lebanon	L.H.S.	1885	RE.

*Spiranthes cernua* (L.) Richard.

Franconia	Paxon	1895	G.
Holderness	Gundersen, Lowenstein	1914	RE.

*Spiranthes Romanzoffiana* Cham.

Franconia	Paxon	1891	G.
Lisbon	Winn	1890	RE.
Thornton	Pease	1905	RE.
Waterville	Cushman	1912	RE.

GOODYERA R.Br. (*Epipactis* of Manual #2.)*Goodyera repens* R.Br., var. *ophioides* (Fernald) A.A. Eaton.

(*Epipactis repens* of Manual #2.)

Bethlehem	Collins	1891	G.
-----------	---------	------	----

#1. Jesup 1891 *Flora & Fauna* p. 43.

#2. *Goodyera* now the name in general use



Franconia	Faxon	1893, 1897	G., NE.
Woodstock	Russell	1899	G.
Benton	W. Root	1895	G.
Lebanon	Kennedy	1895	G.
<i>Goodyera tessellata</i> Lodd. ( <i>Epipactis tessellata</i> of Manual #1.)			
Franconia	Faxon	1895, 1896, 1897	NE.
	E. Faxon	1895	G.
Woodstock	Russell	1899	G.
Thornton	Pease	1903	NE.
Warren	Snow	1910	G.
Westworth	Williams	1910	G.
Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	Pervey	1917	G.
<i>Goodyera pubescens</i> R.Br. ( <i>Epipactis pubescens</i> of Manual #1.)			
Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	Kennedy	1893, 1895	NE., G.

*LISTERA* R.Br. Twayblade.

*Listera cordata* (L.) R.Br.

Franconia	Collins, Thornton	1891	G.
Waterville	Fare	1905	NE.
Benton	Flint Reported by Jesup (#2.), no specimen seen.		
Holderness	Fernald	1915	NE.
Dorchester	Edmondson	1903	G.

*CORALLORRHIZA* (Haller) R.Br. Coral Root.

*Corallorrhiza trifida* Chatelain.

Franconia	Faxon	1887, 1889, 1892	G., NE.
-----------	-------	------------------	---------

#1. *Goodyera* now in general use

#2. Jesup 1891 *Flora & Fauna* p. 42.



Lincoln	Kennedy	1858	G.
	Fernald	1918	XX.
Holderness	Fernald	1917	XX.
Hanover	Waskins	1915	XX.
	Pickard	1846	XX.

*Corallorrhiza maculata* Raf.

Bethlehem	Collins	1891	G.
Franconia	Chlor, Russell, Shaw	1917	., G.
Woodstock	Russell	1906	G.
	Fernald	1915	XX.
Holderness	Wandersen, Lowenstein	1914	XX.
Hanover	Reported by Jesup (#1.), no specimen seen.		
Lebanon	L.E.E.	1883	XX.

*Malaxis* Coland.

*Malaxis unifolia* Michx.

Bethlehem	Collins	1891	XX.
Lisbon	Winn	1880	XX.
Campton	Richards	1892	XX.
Warren	Williams	1907	G.
Lebanon	Poole, Wilson	1925	XX.

*Liparis* Richard. Twayblade.

*Liparis Loeselii* (L.) Richard.

Bethlehem	Collins	1891	G.
-----------	---------	------	----

Reported by Jesup (#1.) from Hanover, no specimen seen.

#1. Jesup 1891 Flora & Fauna p. 42.

#2. Fernald 1926 Rhod. 28 p.176.





## CLASS DICOTYLEDONEAE

## SUBCLASS ARCHICHLAMYDACEAE

## ORDER SALICALES

## FAMILY SALICACEAE

## SALIX (Tourn.) L. Willow.

*Salix nigra* Marsh. Black Willow

Holderness	Botany 7	1915	SE.
Ashland	Fernald	1916	SE.
Hanover	Williams	1910	G.
	Flint		SE.

*Salix nigra* Marsh., var. *falcata* (Pursh) Torr.

Wentworth	Williams	1906	G.
Plymouth	Faxon	1894	G.
	Knowlton	1923	SE.

*Salix pentandra* L. Bay-Leaved Willow

Woodstock	Fernald	1915	SE.
-----------	---------	------	-----

*Salix lucida* Muhl. Shining Willow

Lincoln	Kennedy	1891	G.
Plymouth	Faxon	1894	G.
Ashland	Fernald	1916	SE.
Hanover	Flint		SE.

*Salix alba* L., var. *vitellina* (L.) Koch.

Warren	Williams	1910	G.
Lebanon	SVH	1920	SE.

*Salix longifolia* Muhl. Land Mar Willow.

Lebanon	Reported by Jesup(#1.), no specimen seen.		
---------	---	--	--



*Salix cordata* Muhl.

Franconia	Faxon	1887	3.
	Kennedy	1907	3.
Lincoln	Kennedy	1891	3.
Bentworth	Williams	1908, 1910	3.
Plymouth	Fernald	1915	NE.
Ashtland	Fernald	1916	NE.
Hanover	Flint		NE.
Lebanon	Kennedy	1889	3.
	RVH	1920	NE.

*Salix pyrifolia* Anders. (S. Balsamifera of Manual. #1.)

Bethlehem	Faxon	1899	NE.
Franconia	Faxon	1887, 1889, 1890	NE., 3.
	Fernald, Smiley	1915	NE.
Benton	Williams	1907	NE.

*Salix Uva-ursi* Pursh.

Franconia	Wm. Scott	1855	3.
	Faxon	1887, 1889	NE., 3.
	Fernald, Smiley	1915	NE.

*Salix Uva-ursi* Pursh., *f. lasiophylla* Fernald (#2.)

Franconia	Fernald	1915	NE.
-----------	---------	------	-----

*Salix herbacea* L.

Franconia	Fernald	1915	NE.
-----------	---------	------	-----

*Salix discolor* Muhl.

Franconia	F. Faxon, Kennedy	1910	3.
-----------	-------------------	------	----

#1. Fernald 1914 Rhod. 16 p.116.

#2. Fernald 1916 Rhod. 13 p.52.





Warren	Williams	1908	G.
Plymouth	Knowlton	1915	NE.
<i>Salix discolor</i> Muhl., var. <i>latifolia</i> Andersson (#1.)			
Lebanon	Kennedy	1882	G.
<i>Salix humilis</i> Marsh.			
Franconia	Faxon	1889, 1890, 1907	G., NE.
Plymouth	Fernald	1915	NE.
<i>Salix humilis</i> Marsh., var. <i>keweenawensis</i> Farwell (#2.)			
Franconia	Faxon	1882	G.
Lisles	Faxon	1882	G.
<i>Salix sericea</i> Marsh. Silky Willow.			
Franconia	Kennedy	1917	G.
Woodstock	Fernald	1915	NE.
Wentworth	Williams	1910	NE.
Warren	Williams	1908	G.
Lebanon	Fernald, Hunnewell	1920	NE.
<i>Salix rostrata</i> Richards.			
Franconia	Kennedy	1907, 1910	NE., G.
Woodstock	Fernald	1915	NE.
Warren	Williams	1908, 1910	NE., G.
Lebanon	Kennedy	1886	NE.
	BWH	1920	NE.

POPULUS (Tourn.) L. Poplar.

*Populus alba* L.

Woodville	Williams	1908	G.
-----------	----------	------	----

#1. Schneider 1921 Jour. Arn. Arbor. 2 p.5.

#2. Farwell 1904 Annual Rept. Mich. Acad. Sci. 6 p.206.



*Populus tremuloides* Michx.

Woodstock	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Lebanon	Kennedy	1896	NE.

*Populus grandidentata* Michx.

Woodstock	Williams	1908	G.
Lebanon	Kennedy	1891	G.

*Populus nigra* L., var. *italica* DuRoi.

Hanover	Williams	1910	G.
---------	----------	------	----

## ORDER MYRICALES

## FAMILY MYRICACEAE

## MYRICA L.

*Myrica Gale* L. Sweet Gale.

Lincoln	Kennedy	1891	G.
Hanover	Reported by Jesup(#1.), no specimen seen.		

*Myrica Gale* L., var. *subglabra* (Chevalier) Fernald (#2.)

Wentworth	Williams	1908	G.
-----------	----------	------	----

*Myrica asplenifolia* L. Sweet Fern.

Haverhill	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.

## ORDER JUGLANDALES

## FAMILY JUGLANDACEAE

## JUGLANS L. Walnut

*Juglans cinerea* L. Butternut.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

#1. Jesup 1891 Flora & Fauna p. 38.

#2. Fernald 1914 Rhod. 16 p. 167.



Plymouth	Fernald	1915	NE.
Lebanon	Kennedy	1894	G.
	BPH	1920	NE.

*CARYA* Nutt. Hickory

*Carya cordiformis* (Wang.) K. Koch.

Lebanon	Barrows	Reported by Jesup(#1.), no specimen seen.
---------	---------	---

ORDER FAGALES

FAMILY BETULACEAE

*CORYLUS* (Tourn.) L. Hazelnut.

*Corylus americana* Walt.

Haverhill	Fernald	1917	NE.
Holderness	Botany 7	1915	NE.
Hanover	Reported by Jesup(#1.), no specimen seen.		
Lebanon	BPH	1920	NE.

*Corylus cornuta* Marsh. (*C. rostrata* of Manual. #2.)

Lebanon	Kennedy	1887, 1888	G.
	BPH	1920	NE.

*CARPINUS* (Tourn.) L. Hornbeam.

*Carpinus caroliniana* Walt.

Lebanon	Kennedy	1896	NE.
	BPH	1920	NE.

*BETULA* (Tourn.) L. Birch.

#1. Jesup 1891 Flora & Fauna p. 38.

#2. Wiegand & James 1924 Cornell Univ. Agr. Exp. Sta. 92 p. 174. Memoirs





*Betula lutea* Michx. f. Yellow Birch.

Hanover	Hitchcock	1883	G.
Lebanon	Fernald, Munnewell	1920	W.

*Betula lutea* Michx. f., var. *macrolepis* Fernald (#1.)

Warren	Williams	1908	G.
--------	----------	------	----

*Betula populifolia* Marsh. Gray Birch.

Franconia	Wm. Boott	1855	G.
	Kennedy	1910	G.
Woodstock	Fernald	1915	W.
Warren	Williams	1908	G.
Plymouth	Fernald	1915	W.

*Betula caerulea-grandis* Blanchard. (*B. pendula* of Manual. #2.) Indigenous.

Franconia	Kennedy	1910	G.
-----------	---------	------	----

*Betula pendula* Roth. Introduced

Hanover	Williams	1910	G.
---------	----------	------	----

*Betula papyrifera* Marsh. (*B. alba*, var. *papyrifera* of Manual #3.)

Hanover	Reported by Jesup (#4.), no specimen seen.		
Lebanon	RFH	1920	W.

*Betula papyrifera* Marsh., var. *cordifolia* (Regel) Fernald.(*B. alba*, var. *cordifolia* of Manual #3.)

Benton	Williams	1907, 1908	G.
--------	----------	------------	----

#1. Fernald 1922 Rhod. 24 p. 170.

#2. Fernald 1922 Rhod. 24 p. 171-173.

#3. Fernald 1921 Rhod. 23 p. 257.

#4. Jesup 1891 Flora &amp; Fauna p. 38.



## ALNUS (Tourn.)Will. Alder.

*Alnus crispa* (Ait.)Pursh.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

Hanover	Reported by Jesup(#1.), no specimens seen.		
---------	--	--	--

*Alnus crispa* (Ait.)Pursh., var. *mollis* Fernald. (*A.mollis* of Manual #2.)

Franconia	Kennedy	1907	NE.
-----------	---------	------	-----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Holderness	Sundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

	Botany 7	1915	NE.
--	----------	------	-----

*Alnus incana* (L.)Moench., var. *glauca* Ait. (#3.)

Haverhill	Fernald	1908	NE.
-----------	---------	------	-----

Warren	Williams	1908	G.
--------	----------	------	----

Bristol	Sich	1893	G.
---------	------	------	----

Lebanon	Kennedy	1896	G.
---------	---------	------	----

	BPH	1920	NE.
--	-----	------	-----

## FAMILY FAGACEAE

## FAGUS (Tourn.)L. Beech

*Fagus grandifolia* Ehrh.

Lebanon	BPH	1920	NE.
---------	-----	------	-----

## CASTANEA (Tourn.)Will. Chestnut.

*Castanea dentata* (Marsh.)Borkh.

Hanover	Williams	1910	G.
---------	----------	------	----

#1. Jesup 1891 Flora & Fauna p.33.

#2. Fernald 1913 Rhod. 15 p. 44.

#3. Gray 1848 Manual p.423.





*QUERCUS* (Tourn.) L. Oak.*Quercus alba* L. White Oak.

Bath	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.
Lebanon	Williams	1910	G.

*Quercus borealis* Michx. f. (*Q. rubra* of Manual. 1.) Gray Oak.

Lebanon	BFH	1920	NE.
---------	-----	------	-----

*Quercus coccinea* Muench. Scarlet Oak.

Holderness	Svenson	1921	NE.
------------	---------	------	-----

## ORDER URTICALES

## FAMILY URTICACEAE

*ULMUS* (Tourn.) L. Elm.*Ulmus fulva* Michx. Slippery Elm.

Plymouth	Fernald	1915	NE.
Lebanon	BFH	1920	NE.

*Ulmus americana* L. American Elm.

Franconia	Kennedy	1910	G.
Lebanon	BFH	1920	NE.

*HUMULUS* L. Hop.*Humulus Lupulus* L.

Warren	Williams	1910	G.
Hanover	Williams	1910	G.
Lebanon	Kennedy	1894	G.



## URTICA (Tourn.) L. Nettle.

Urtica procera Vahl. (U. gracilis of Manual. #1.)

Franconia	Kennedy	1907	1.
Woodsville	Williams	1908	1.
Lebanon	RFH	1920	HK.

## LAPORTEA Gaud. Wood Nettle.

Laportea canadensis (L.) Gaud.

Woodstock	Fernald	1915	HK.
Campton	Hoar	1858	HK.
Plymouth	Knowlton	1925	HK.
Lebanon	Kennedy	1891	1.

## BOEHMERIA Jacq. False Nettle.

Boehmeria cylindrica (L.) Sw.

Hanover	Williams	1910	1.
Lebanon	Kennedy	1890	1.

## ORDER SANTALALES

## FAMILY SANTALACEAE

## COMMANDRA Nutt. Bastard Toad-Flax.

Commandra umbellata (L.) Nutt.

Ashland	Fernald	1916	HK
Canaan	Reported by Jesup (#2.), no specimen seen.		

#1. Fernald 1926 Rhod. 23 P. 191.

#2. Jesup 1891 Flora &amp; Fauna p. 36.



## FAMILY LORANTHACEAE

## ARCEUTHOBIA Sieb.

Arceuthobium pusillum Peck. Dwarf Mistletoe

Hanover	Jesup	1883	G.
Canaan	Reported by Jesup(1.), no specimen seen.		
Lebanon	Jesup	1885, 1891	NE.

## ORDER ARISTOLOCHIALES

## FAMILY ARISTOLOCHIACEAE

ASARUM (Tourn.) L. Wild Ginger.

Asarum canadense L.

Franconia	Faxon	1898	G.
Haverhill	Fernald	1917	NE.
Hanover	Rickard	1846	NE.
Lebanon	Kennedy	1895	G.
	Haskins	1915	NE.
	BPH	1920	NE.

## ORDER POLYGONALES

## FAMILY POLYGONACEAE

RUMEX L. Dock. Sorrel.

Rumex Patientia L.

Warren	Williams	1908	G.
Hanover	Williams	1910	G.
Lebanon	Alden, Kennedy	1904	G.

Rumex crispus L.

Franconia	Kennedy	1907	G.
Warren	Williams	1908	G.





*Rumex obtusifolius* L.

Warren	Williams	1908	G.
Lebanon	Kennedy	1893	G.

*Rumex Acetosella* L. Sheep Sorrel.

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

## POLYGONUM (Tourn.) L.

*Polygonum scabrum* Moench. (*P. tomentosum* of Manual. #1.)

Warren	Williams	1908	G.
--------	----------	------	----

*Polygonum natans* Eaton (*P. amphibium* of Manual. #2.)

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Honover Reported by Jesup(#3.), no specimen seen.

Enfield	Kennedy	1890	G.
---------	---------	------	----

*Polygonum Hydrophilum* L.

Franconia	Kennedy	1910	G.
-----------	---------	------	----

*Polygonum sagittatum* L.

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

*Polygonum cilinode* Michx.

Franconia	Lowell	1845	BS.
	Wm. Boott	1833	G.
Woodstock	Fernald	1915	NE.
Lyme	Loveland	1883	NE,
Lebanon	BPH, Eaton	1920	NE., G.

## FAGOPYRUM (Tourn.) L. Buckwheat.

*Fagopyrum esculentum* Moench.

Lebanon	Kennedy	1893	G.
---------	---------	------	----

#1. Fernald 1921 Rhod. 33 p. 259.

#2. Stanford 1925 Rhod. 27 p. 156.

#3. Jesup 1891 Flora & Fauna p. 35.



*Pagopyrum tataricum* (L.) Gaertn.

Warren	Williams	1908	3.
Hanover	Williams	1910	2.

## POLYGONELLA Michx.

*Polygonella articulata* (L.) Meisn.

Bethlehem	Pease	1924	WE.
Woodstock	Fernald	1913	WE.
Campton	Ahler, Russell	1917	WE.
Woodville	Kennedy	1904	3.
Wentworth	Williams	1910	3.
Plymouth	Richards	1892	WE.
	Howlton	1916	WE.

## ORDER CHENOPODIALES

## FAMILY CHENOPODIACEAE

## CHENOPODIUM (Tourn.) L. Pigweed

*Chenopodium botrys* L. Jerusalem Oak.

Hanover	Williams	1910	WE., G.
Lebanon	Kennedy	1890	WE.

*Chenopodium hybridum* L.

Haverhill	Fernald	1917	WE.
Hetron	Pease	1926	WE.
Lebanon	Dean, Kennedy	1890	3.

*Chenopodium lanceolatum* Muhl. (C. album, var. viride of Manual in part. #1.)

Woodville	Williams	1910	3.
-----------	----------	------	----

*Chenopodium fascianum* Moq.

Haverhill	Fernald	1917	WE.
-----------	---------	------	-----





## FAMILY AMARANTHACEAE

## AMARANTHUS (Tourn.) L.

*Amaranthus retroflexus* L.

Warren	Williams	1921	N.
Lebanon	Kennedy	1900	G.

## FAMILY ILIACEAE

## ANYCHIA Michx.

*Anychia canadensis* (L.) REF.

Holderness	Svenson	1921	N.
------------	---------	------	----

## PARONYCHIA (Tourn.) Adans. Willow-Hort

*Paronychia argyrocoma* (Michx.) Nutt., var. *albimontana* Fernald.

Waterville	Goodrich	1904	N.
------------	----------	------	----

## ORDER CARYOPHYLLALES

## FAMILY CARYOPHYLLACEAE

## SPERGULARIA J. &amp; C. Presl.

*Spergularia rubra* (L.) J. & C. Presl.

Reported by Jesup (#1.) from Canaan and Plymouth, no specimens seen.

## SPERGULA L.

*Spergula arvensis* L.

Franconia	Faxon	1927	N.
Holderness	Gundersen, Lowenstein	1914	N.
Hanover	Reported by Jesup (#2.), no specimen seen.		

1. Jesup 1891 Flora & Fauna p. 6.

2. Jesup 1891 Flora & Fauna p. 7.



## SAGINA L.

*Sagina procumbens* L.

Haverhill	Fernald	1917	ME.
Holderness	E. Vaxon	1886	N.
Hanover	Williams	1910	ME.
Lebanon	Kennedy	1874	N.

## ARENARIA L.

*Arenaria lateriflora* L.

Hanover	Williams	1885	N.
Lebanon	WH	1920	ME.

*Arenaria stricta* Michx.

Holderness	Manning	1891	N.
	Svenson	1921	ME.

*Arenaria groenlandica* (Petz.) Spreng.

Franconia	Hoar	1858	ME.
	Fernald, Smiley	1915	ME.
Benton	Wharton	1912	ME.
	Williams	1907	N.
	Pease	1913	ME.

*Arenaria groenlandica* (Petz.) Spreng., var. *glabra* (Michx.) Fernald. (#1.)

Thornton	Weatherby	1915	ME.
----------	-----------	------	-----

## STELLARIA L. Chickweed.

*Stellaria borealis* Bigel., var. *isophylla* Fernald. (#2.)

Benton	Williams	1907	N.
--------	----------	------	----

#1. Fernald 1919 Rhod. 21. p. 20.

#2. Fernald 1914 Rhod. 16. p. 144.



Lebanon	Fernald, Manssweil	1900	NE.
<i>Stellaria uliginosa</i> Marr.			
Holderness	Faxon	1886	NE.
<i>Stellaria graminea</i> L.			
Hanover	Jesup	1887	G.
Lebanon	Kennedy	1887	NE.

#### CERASTIUM L.

##### *Cerastium arvense* L.

Reported by Jesup (fl.) from Hanover, no specimen seen.

##### *Cerastium vulgatum* L.

Holderness	Andersen, Lowenstein	1914	NE.
------------	----------------------	------	-----

#### ANODOBIS L. Corn Cockle.

##### *Agrostemma Githago* L.

Woodstock	Williams	1903	G.
-----------	----------	------	----

Reported by Jesup (fl.) from Hanover, no specimen seen.

#### LYCHNIS (Tourn.) L.

##### *Lychnis chalcedonica* L.

Hanover	Williams	1910	G.
---------	----------	------	----

##### *Lychnis alba* Mill.

Hanover	Williams	1910	G.
---------	----------	------	----

#### SILENE L.

##### *Silene antirrhina* L.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----





*Silene Armeria* L.

Hanover	Williams	1910	G.
Lebanon	Kennedy	1894	G.

*Silene noctiflora* L.

Warren	Williams	1907	G.
Hanover	Williams	1910	G.

*Silene latifolia* (Mill.) Britton & Wendle.

Reported by Jesup (1.), from Hanover, no specimen seen.

*Heponaria* L.*Heponaria officinalis* L. Bouncing Bet.

Hanover	Williams	1910	G.
---------	----------	------	----

*Dianthus* L. Pink.*Dianthus armeria* L.

Hanover	Chivers	1915	VI.
---------	---------	------	-----

## FAMILY PORTULACACEAE

*CLAYTONIA* (Gronov.) L. Spring Beauty.*Claytonia caroliniana* Michx.

Frederick	Faxon	1892	VI.
Lebanon	Kennedy	1900	VI.

## ORDER RANUNCULALES

## FAMILY CERCATOPHYLLACEAE

*CERCATOPHYLLUM* L. Hornwort



*Ceratophyllum demersum* L.

Reported by Jesup(#1.), from Canaan and Enfield, no specimen seen.

*NYMPHOSEANTHUS* L.O. Richard (Nymphaea of Manual. #2.)

*Nymphaeanthus variegatus* (Engelm.) Fernald. (Nymphaea advena, var. variegata of Manual. #2.)

Wentworth	Williams	1908	5.
Enfield	Kennedy	1890	11.
Hanover	Williams	1910	3.

*Nymphaeanthus microphyllus* (Pers.) Fernald (Nymphaea microphylla of Manual. #2.)

Hanover	Loring	1910	4.
---------	--------	------	----

*NYMPHAEA* L. (Castalia of Manual. #2.)

*Nymphaea odorata* L. (Castalia odorata of Manual. #2.)

Enfield	Kennedy	1890	3.
---------	---------	------	----

*Nymphaea odorata* L., forma rosea Pursh. (Castalia odorata, forma rosea of Manual. #2.)

Wentworth	Williams	1908	11.
-----------	----------	------	-----

*BRASSICA* Schreb. Peter Shield.

*Brassica Schreberi* Smel.

Lebanon	Kennedy	1890	3.
---------	---------	------	----

#### FAMILY RANUNCULACEAE

*RANUNCULUS* (Tourn.) L. Buttercup

*Ranunculus delphinifolius* Torr.

Reported by Jesup(#3.) from Hanover, no specimen seen.

- #1. Jesup 1891 Flora & Fauna p. 40.
- #2. Fernald 1919 Rhod. 21. p. 183-187.
- #3. Jesup 1891 Flora & Fauna p. 2.





*Ranunculus reptans* L. (*R. Flammula*, var. *reptans* of Manual. (1.)

Wentworth	Williams	1908	G.
-----------	----------	------	----

*Ranunculus reptans* L., var. *ovalis* (Nigel.) T.M.S. (*R. Flammula*, var. *ovalis* of Manual. (1.)

Ashland	Murdock	1905	W.
---------	---------	------	----

Lebanon	Pease	1900	W.
---------	-------	------	----

*Ranunculus abortivus* L.

Lebanon	Kennedy	1900	G.
---------	---------	------	----

	BPH	1920	W.
--	-----	------	----

*Ranunculus recurvatus* Poir.

Wentworth	Williams	1908	G.
-----------	----------	------	----

Lebanon	BPH	1920	W.
---------	-----	------	----

*Ranunculus sententrisialis* Poir.

Francia	Faxon	1891, 1892, 1893, 1895, 1897	W., G.
---------	-------	------------------------------	--------

Lebanon	BPH	1920	W.
---------	-----	------	----

*Ranunculus repens* L., var. *villosus* Lamotte. (#2.)

Hanover	Lyon	1926	G.
---------	------	------	----

*Ranunculus repens* L., var. *pleniflorus* Fernald. (#2.)

Hanover	Jesup	1892	G.
---------	-------	------	----

*Ranunculus acris* L.

Holderness	Gundersen, Lowenstein	1914	W.
------------	-----------------------	------	----

*Ranunculus acris* L., var. *steveni* (Andrz.) Lange.

Waterville	Cushman	1912	W.
------------	---------	------	----

Holderness	Gundersen, Lowenstein	1914	W.
------------	-----------------------	------	----

#1. Fernald 1917 Rhod. 19 p. 135-136.

#2. Fernald 1919 Rhod. 21. p. 169.



THALICTRUM (Tourn.)L. Meadow Rue.

*Thalictrum dioicum* L.

Haverhill	Fernald	1917	NE.
Lebanon	BPH.	1920	NE.

*Thalictrum polygamum* Muhl.

Woodstock	Fernald	1915	NE.
Lebanon	Kennedy	1920	NE.

ANEMONELLA Spach.

*Anemonella thalictroides* (L.)Spach. Rue Anemone.

Claremont	Barrows Reported by Jesup(#1.), no specimen seen.		
-----------	---	--	--

HEPATICA (Supp.)Hill. Hepatica.

*Hepatica americana* (DC.)Wet. (*H. triloba* of Kennel. #2.)

Holderness	Bundersee, Lowenstein	1914	NE.
Hanover	Williams	1910	G.
Lebanon	Kennedy	1925	G.
	BPH	1920	NE.

ANEMONE (Tourn.)L. Anemone.

*Anemone cylindrica* Gray.

Hanover	Chivers	1902	G.
---------	---------	------	----

*Anemone riparia* Fernald.

Haverhill	Fernald	1917	NE.
Hanover	Williams	1910	G.

*Anemone virginiana* L.

Plymouth	Fernald, Knowlton	1915	NE.
----------	-------------------	------	-----

#1. Jesup 1891 Flora & Fauna p.1.

#2. Fernald 1917 Rhod. 19 p.45.



*Anemone quinquefolia* L.

Woodstock	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Lebanon	Kennedy	1894	G.
	BPH	1920	NE.

*CLIMATIS* L. *Virginia Bower.**Clematis virginiana* L.

Woodstock	Fernald	1915	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	Kennedy	1891	G.
	BPH	1920	NE.

*Clematis verticillaris* DC.

Holderness	Svenson	1921	NE.
Lyme	Reported by Jesup(#1.), no specimen seen.		

*CALTHA* (Rupp.) L. *Marsh Marigold.**Caltha palustris* L.

Hanover	Reported by Jesup(#2.), no specimen seen.		
Lebanon			

*COPTIS* Salisb. *Goldthread**Coptis groenlandica* (Oeder.) Fernald. (*C. trifolia* of Manual. #3.)

Franconia	Russell		G.
Lincoln	Kennedy	1898	G.

#1. Jesup 1891 *Flora & Fauna* p.1.

#2. Jesup 1891 *Flora & Fauna* p.2.

#3. Fernald 1920 *Ibid.* 31 p.142.





Woodstock	Fernald	1915	NE.
Waterville	Cushman	1912	BS.
Holderness	Gundereen, Lowenstein	1914	NE.
	Fernald	1915	NE.

*AQUILEGIA* (Tourn.) L. Columbine.

*Aquilegia canadensis* L.

Haverhill	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
Lebanon	BWH	1920	NE.

*Aquilegia vulgaris* L.

Woodstock	Fernald	1915	NE.
Warren	Williams	1913	G.

*CIMICIFUGA* L. Bugbane.

*Cimicifuga racemosa* (L.) Nutt.

Infield	Kennedy	1924	G.
---------	---------	------	----

*ACTAEA* L. Baneberry

*Actaea rubra* (Ait.) Willd.

Lebanon	Kennedy	1887	G.
	BWH	1920	NE.

*Actaea alba* (L.) Mill.

Plymouth	Kennedy	1915	NE.
Hanover	Haskins	1915	NE.
Lebanon	Fernald, Hunnewell	1920	NE.
	Hervey		NE.



## FAMILY BERBERIDACEAE

CAULOPHYLLUM Michx. Blue Cohosh.

Caulophyllum thalictroides (L.) Michx.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

BERBERIS (Tourn.) L. Barberry.

Berberis vulgaris L.

Lebanon	BPH	1920	NE.
---------	-----	------	-----

## ORDER PAPAVERALES

## FAMILY PAPAVERACEAE

SANGUINARIA (Dill.) L. Bloodroot.

Sanguinaria canadensis L.

Plymouth	Fernald	1915	NE.
Hanover	Williams	1910	G.
Lebanon	BPH	1920	NE.

CHELIDONIUM (Tourn.) L. Celandine.

Chelidonium majus L.

Woodstock	Fernald	1915	NE.
Holderness	Gundersen, Lowenstein	1920	NE.
Hanover	Williams	1910	G.

## FAMILY FUMARIACEAE

DICENTRA Bernh.

Dicentra Cucullaria (L.) Bernh. Dutchman's Breeches.

Franconia	Faxon	1892	G., NE.
-----------	-------	------	---------

Dicentra canadensis (Goldie) Walp. Squirrel Corn.

Hanover	Rickard	1946	NE.
---------	---------	------	-----





## CORYDALIS (Mill.) Medic.

*Corydalis sempervirens* (L.) Pers.

Lebanon	Preston	1879	NE.
	BPH	1923	NE.

## FUMARIA (Tourn.) L. Fumitory.

*Fumaria officinalis* L.

Hanover	Chivers	1900	G.
Lebanon	Hervey	1916	NE.

## FAMILY GURJIVAEAE

## THLASPI (Tourn.) L. Penny Cress

*Thlaspi arvense* L.

Warren	Williams	1908	G.
Lebanon	Reported by Jesup(#1.), no specimen seen.		

## LEPIDIUM (Tourn.) L. Peppergrass.

*Lepidium virginicum* L.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Lepidium apetalum* Willd.

Warren	Williams	1907	G.
--------	----------	------	----

*Lepidium campestre* (L.) R. Br.

Hanover	Williams		G.
---------	----------	--	----

## SUBULARIA L. Awlwort.

*Subularia aquatica* L.

Franconia	Tuckerman	1843	G.
-----------	-----------	------	----



Franconia	Wm. Scott	1862	NE.
	Lamson Scribner	1871	NE.
	Slosson	1883	G.
	Faxon	1884, 1887	SE., NE.
	Fuller	1885	NE.
	Williams	1894, 1913	G., NE.
	Prince	1897	SE.
	Dakes		SE., NE.
Holderness	Svenson	1921	NE.
Ashland	Wardock	1905	NE.

#### CAMELINA Crantz.

##### *Camelina microcarpa* Andr.

Woodsville	Williams	1909	G.
------------	----------	------	----

#### RAPHANUS (Tourn.) L. Radish

##### *Raphanus Raphanistrum* L.

Franconia	Kennedy	1907	G.
Hanover	Williams	1910	G.

##### *Raphanus sativus* L.

Hanover	Williams	1910	G., NE.
---------	----------	------	---------

#### BRASSICA (Tourn.) L.

##### *Brassica arvensis* (L.) Ktze. Charlock.

Plymouth	Sargent Reported by Jesup(1.), no specimen seen.		
Hanover	Williams	1910	G.

##### *Brassica juncea* (L.) Cosson.

Lebanon	Kennedy	1894	G.
---------	---------	------	----



*Brassica nigra* (L.) Koch.

Lisbon	Faxon	1896	NE.
Warren	Williams	1910	G.

*Brassica campestris* L.

Franconia	Faxon	1897	NE.
Hanover	Williams	1910	G.

*SISYMBRIUM* (Tourn.) L. Hedge Mustard.*Sisymbrium officinale* (L.) Scop.

Warren	Williams	1908	G.
--------	----------	------	----

*Sisymbrium altissimum* L.

Bethlehem	Kennedy	1911	NE.
Woodville	Williams	1908, 1910	G.
Plymouth	Sargent	1909	G.

*ERYSIMUM* (Tourn.) L.*Erysimum cheiranthoides* L.

Hanover	Reported by Jesup (#1.), no specimen seen.		
Lebanon	Kennedy	1894	NE.

*RORIPA* Scop. (*Radicula* of Manual. #2.)*Roripa sylvestris* (L.) Bess. (*Radicula sylvestris* of Manual. #2.)

Hanover	Williams	1910	G.
Lebanon	Williams	1910	G.

*Roripa palustris* (L.) Bess. (*Radicula palustris* of Manual. #2.)

Lisbon	Kennedy	1910	G.
Hanover	Williams	1910	G.

#1. Jesup 1891 Flora &amp; Fauna p. 4.

#2. Sprague 1924 Jour. Bot. 53 p. 225.





*Roripa Armoracia* (L.) A.E. Hitchcock. (*Radicula Armoracia* of Manual. #1.)

Warren	Williams	1910	G.
--------	----------	------	----

*BARBAREA* R.Br.

*Barbarea vulgaris* R.Br.

Lebanon	Kennedy	1887, 1896	NE., G.
---------	---------	------------	---------

*Barbarea vulgaris* R.Br., var. *longisiliquosa* Carion. (#2.)

Warren	Williams	1910	G.
--------	----------	------	----

Hanover	Williams	1910	G.
---------	----------	------	----

*DENTARIA* (Tourn.) L.

*Dentaria diphylla* Michx.

Franconia	Faxon	1892, 1898	NE., G.
-----------	-------	------------	---------

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Lebanon	Haskins	1915	NE.
---------	---------	------	-----

	BPH	1920	NE.
--	-----	------	-----

*CARDAMINE* (Tourn.) L.

*Cardamine bellidifolia* L., var. *laxa* Lange.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

*Cardamine pennsylvanica* Muhl.

Woodstock	Fernald	1917	NE.
-----------	---------	------	-----

Waterville	Ware	1905	NE.
------------	------	------	-----

	Cushman	1912	NE.
--	---------	------	-----

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Lebanon	BPH	1920	NE.
---------	-----	------	-----

#1. Savage 1924 Jour. Bot. 53 p. 225.

#2. Fernald 1909 Rhod. 11 p. 134-141.



## ARABIS L.

*Arabis Grisebii* Gray.

Holderness	Fernald	1913	NE.
Hebron	Pease	1926	NE.
Hanover	Reported by Jesup(1.), no specimen seen.		
Lebanon	BFH	1920	NE.

*Arabis hirsuta* (L.) Scop.

Bath	Pease	1926	NE.
------	-------	------	-----

*Arabis viridis* Harger. (#2.)

Holderness	Evenson	1920	NE.
------------	---------	------	-----

## FAMILY RESEDACEAE

## RESEDA (Tourn.) L. Mignonette.

*Reseda alba* L.

Lisbon	Kennedy	1907	NE.
--------	---------	------	-----

## ORDER SARRACENTALES

## FAMILY SARRACENIACEAE

## SARRACENIA (Tourn.) L.

*Sarracenia purpurea* L. Pitcher-Plant.

Franconia	Kennedy	1900	NE.
Lisbon	Faxon	1891	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	Haskins	1915	NE.

## FAMILY ROSACEAE

#1. Jesup 1891 Flora & Fauna p. 4.

#2. Harger 1911 Rhod. 13 p. 37-37.





*ROSSIA* L. Sundew.

*Drosera rotundifolia* L.

Woodstock	Fernald	1915	NE.
Waterville	Cushman	1912	NE.

*Drosera longifolia* L.

Wentworth	Williams	1908, 1910	G.
Manover	Reported by Jesup(#1.), no specimen seen.		
Lanaan	Sinslow	1918	NE.
Infield	Kennedy	1890	G.

ORDER ROSALES

FAMILY CRASSULACEAE

*PENTHORUM* (Gronov.) L.

*Penthorum sedoides* L.

Lebanon	Kennedy	1890	G.
	Hervey	1916	NE.

*SEDUM* (Tourn.) L. Stonecrop.

*Sedum triphyllum* (Haw.) S.F.Gray. (*S. purpureum* of Manual. #2.)

Holserness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

FAMILY SAXIFRAGACEAE

*SAXIFRAGA* (Tourn.) L. Saxifrage.

*Saxifraga pennsylvanica* L.

Bath	Pease	1926	NE.
Lebanon	SPH	1920	NE.

#1. Jesup 1891 Flora & Fauna p. 15.

#2. Robinson & Fernald 1909 Rhod. 11 p. 46.



*Saxifraga virginiana* Michx.

Plymouth	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
Ashland	Fernald	1916	NE.
Lebanon	BTH	1920	NE.

*TIARELLA* L. False Miterwort.*Tiarella cordifolia* L.

Franconia	Williams	1894	N.
	Russell		G.
Lincoln	Em. Boott	1855	N.
Woodstock	Fernald	1915	NE.
Denton	Featherby	1915	NE.
Plymouth	Knowlton	1915	NE.
Holderness	Fernald	1915	NE.
Hanover	Rickard	1946	NE.
	Haskins	1915	NE.
Lebanon	Kennedy	1887	G.
	BTH	1920	NE.

*MITELLA* (Tourn.) L. Miterwort.*Mitella diphylla* L.

Bath	Pease	1917	NE.
Hanover	Rickard	1946	NE.
	Williams	1915	G.
Lebanon	Kennedy	1895	G.
	Pease	1907	NE.
	BTH	1920	NE.



## CHRYSOPLANIUM (Tourn.) L. Golden Saxifrage.

*Chrysoplenium americanum* Schwein.

Waterville	Cushman	1912	BS.
Warren	Williams	1907	3.
Holderness	Fernald	1915	NE.
Lebanon	BPH	1922	NE.

## RIBES L. Currant. Gooseberry.

*Ribes cynosbati* L.

Franconia	S. Faxon	1889	3.
Warren	Williams	1907	3.
Plymouth	Fernald	1915	NE.
Holderness	Botany 7.	1915	NE.

*Ribes americanum* Mill. (*R. floridum* of Manual. #1.)

Lincoln	Kennedy	1883	3.
Hanover	Chivers	1902	3.

*Ribes lacustre* (Pers.) Poir.

Franconia	Boott	1855	NE.
	Faxon	1891	NE.
Lisbon	Faxon	1891	NE.
Warren	Williams	1907	3.
Hanover	Reported by Jesup(#2.), no specimen seen.		

*Ribes glandulosum* Grauer. (*R. prostratum* of Manual. #3.)

Franconia	Wm. Boott.	1855	G.
Benton	Williams	1908	3.

#1. Robinson &amp; Fernald 1909 Rhod. 11 p. 46.

#2. Jesup 1891 Flora &amp; Fauna p. 14.

#3. Rehder 1920 Jour. Arnold Arb. 1 p. 255.





Holderness	Potsny 7.	1915	NE.
Hanover	Haskins	1915	NE.
Lebanon	Kennedy	1889	NE.
<i>Ribes vulgare</i> Lam.			
Bethlehem	Hervey	1878	NE.
Hanover	Williams	1910	N.
Lebanon	Fernald, Hunnewell	1920	NE.
<i>Ribes triste</i> Pall., var. <i>albinervium</i> (Michx.) Fernald.			
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.

## FAMILY HAMAMELIDACEAE.

## HAMAMELIS L. Witch-Hazel.

*Hamamelis virginiana* L.

Franconia	Kennedy	1910	NE.
Woodstock	Fernald	1915	NE.
Plymouth	Fernald	1915	NE.
Lebanon	Kennedy	1894	G.
	BFH	1920	NE.

## FAMILY ROSACEAE.

## SPIRAEA (Tourn.) L.

*Spiraea latifolia* Borkh. Meadow-Sweet.

Woodstock	Fernald	1915	NE.
Lebanon	Kennedy	1892	N.
	BFH	1920	NE.

*Spiraea latifolia* Borkh., var. *septentrionalis* Fernald. (Fl.)

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----



*Spiraea tomentosa* L., *forma albiflora* Mackr. (#1.)

Ventworth	Williams	1908	G.
-----------	----------	------	----

*SORBARIA* A.Br.

*Sorbaria sorbifolia* (L.)A.Br.

Holderness	Gundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

*PIRUS* (Tourn.)L.

*Pyrus arbutifolia* (L.)L.f., var. *atropurpurea* (Britton)Robinson.

Ashland	Fernald	1916	NE.
---------	---------	------	-----

*Pyrus melanocarpa* (Michx.)Willd.

Holderness	Botany 7.	1915	NE.
------------	-----------	------	-----

*Pyrus americana* (Marsh.)DC. Mountain Ash.

Franconia	Fernald, Smiley	1915	NE.
-----------	-----------------	------	-----

Woodstock	Kennedy	1898	NE.
-----------	---------	------	-----

*Pyrus dumosa* (Greene)Fernald. (*P. sitchensis* of Manual. #2.)

Franconia	E. Faxon	1894	G., NE.
-----------	----------	------	---------

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Waterville	Cushman	1912	RS.
------------	---------	------	-----

*AMELANCHIER* Medic. Juneberry.

*Amelanchier laevis* Wiegand. (*A. canadensis* of Manual. #3.)

Franconia	Faxon	1892, 1895	NE., G.
-----------	-------	------------	---------

Lincoln	Wm. Boott	1855	G.
---------	-----------	------	----

Warren	Knowlton	1883	NE.
--------	----------	------	-----

Lebanon	Kennedy	1889	NE.
---------	---------	------	-----

#1 Macbride 1915 Rhod. 17 p. 142.

#2. Fernald 1921 Rhod. 23 p. 266.

#3. Wiegand 1912 Rhod. 14 p. 154.





*Amelanchier canadensis* (L.) Medicus. (*A. canadensis*, var. *Botrydium*<sup>a</sup>  
of Manual. #1.)

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Amelanchier stolonifera* Wiegand. (*A. oblongifolia* of Manual. #2.)

Bath	Pease	1926	NE.
------	-------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Ashland	Fernald	1916	NE.
---------	---------	------	-----

*Amelanchier sanguinea* (Pursh.) DC. (*A. spicata* of Manual. #3.)

Bath	Pease	1926	NE.
------	-------	------	-----

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Amelanchier Partrianiana* (Tausch.) Boemer. (*A. oligocarpa* of Manual. #4.)

Franconia	Faxon	1892	NE.
-----------	-------	------	-----

	Williams	1894	NE.
--	----------	------	-----

	Fernald, Smiley	1915	NE.
--	-----------------	------	-----

			NE.
--	--	--	-----

Benton	Flint	1871	NE.
--------	-------	------	-----

	Faxon	1886	G.
--	-------	------	----

Farren	Knowlton	1823	NE.
--------	----------	------	-----

*Amelanchier Partrianiana* & *laevis*

Lincoln	Wm. Boott	1855	SE.
---------	-----------	------	-----

CRATAEGUS L. Hawthorn.

*Crataegus rotundifolia* Moench., var. *Faxoni* (Sarg.) Gleason.

Franconia	C. Faxon	1901, 1909,	G.
-----------	----------	-------------	----

	Kennedy	1907	G.
--	---------	------	----

#1. Wiegand 1912 Rhod. 14 p. 150.

#2. Wiegand 1912 Rhod. 14 p. 144.

#3. Wiegand 1912 Rhod. 14 p. 138.

#4. Wiegand 1912 Rhod. 14 p. 158.



*Crataegus roanensis* Ashe.

Bath	Fernald	1917	NE.
------	---------	------	-----

*Crataegus macrantha* Lodd.

Reported by Jesup from Lyme, Infield, Hanover (1.), no specimen seen.

Lebanon	Kennedy	1887, 1894	G., NE.
---------	---------	------------	---------

*Crataegus macrantha* Lodd., var. *succulenta* (Schrad.) Englestrom.

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

## FRAGARIA (Tourn.) L. Strawberry.

*Fragaria virginiana* Duchesne.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Walden	Fernald	1915	NE.
--------	---------	------	-----

*Fragaria virginiana* Duchesne., var. *terracanosa* (Hydb.) Fernald & Siegel (2.)

Lincoln	Kennedy	1883	G.
---------	---------	------	----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Lebanon	Kennedy	1887	NE.
---------	---------	------	-----

*Fragaria vesca* L.

Lebanon	RFH	1920	NE.
---------	-----	------	-----

## FALDSTEINIA Willd.

*Faldsteinia fragaribides* (Michx.) Prattinick. Barren Strawberry.

Orford	Svenson	1921	NE.
--------	---------	------	-----

Hanover	Sickard	1946	NE.
---------	---------	------	-----

BS.

Lebanon	Loveland	1887	NE.
---------	----------	------	-----

Kennedy	1889, 1895	NE., G.
---------	------------	---------

Pease	1907	NE.
-------	------	-----

Seton, Fernald, Wenneville	1920	G., NE.
----------------------------	------	---------

1. Jesup 1891 Flora &amp; Fauna p. 13.

2. Fernald &amp; Siegel 1911 Rhod. 13 p. 106.



## POTENTILLA L. Cinquefoil.

*Potentilla arguta* Fusch.

Manover	Reported by Jesup(#1.), no specimen seen.
---------	---

Lebanon	Seave	1907	SS.
---------	-------	------	-----

*Potentilla norvegica* L., var. *hirsuta* (Wichx.) Lehm. (*P. monspeliensis*  
of Manual. #2.)

Franconia	Kennedy	1907	SS.
-----------	---------	------	-----

Benton	Williams	1907	SS.
--------	----------	------	-----

*Potentilla norvegica* L., var. *villensis* Wichx. (*P. monspeliensis*, var.

*norvegica* of Manual. #3.)

Woodstock	Fernald	1915	SS.
-----------	---------	------	-----

*Potentilla argentea* L.

Franconia	Kennedy	1910	G.
-----------	---------	------	----

Woodville	Williams	1908	G.
-----------	----------	------	----

Lebanon	BPH	1920	SS.
---------	-----	------	-----

*Potentilla recta* L.

Warren	Williams	1910	G.
--------	----------	------	----

Benton	Emerton	1913	SS.
--------	---------	------	-----

Holderness	Sundersen, Lowenstein	1914	SS.
------------	-----------------------	------	-----

Lebanon	Haskins	1915	SS.
---------	---------	------	-----

*Potentilla Robbinsiana* Oakes.

Franconia	Endicott	1897	G.
-----------	----------	------	----

	Fernald, Smiley	1915	SS.
--	-----------------	------	-----

*Potentilla palustris* (L.) Scop.

Winfield	Kennedy	1890	G.
----------	---------	------	----

#1. Jesup 1891 Flora & Fauna p. 13.

#2. Fernald 1926 Rhod. 28 p. 214.

#3. " " " " "





*Potentilla tridentata* Ait.

Franconia	Faxon	1885	W.
	Fernald, Jackson, Bailey	1915	W.
Santon	Williams	1907	G.

*Potentilla canadensis* L. (*P. pumila* of Manual. (1.))

Waverhill	Fernald	1917	W.
Bath	Fernald	1917	NE.
Lebanon	BM	1920	W.

*Potentilla simplex* Michx. (*P. canadensis* of Manual. (1.))

Woodstock	Fernald	1915	W.
Plymouth	Knowlton	1915	NE.
Lebanon	Kennedy	1887	G.
	BM	1920	W.

*Potentilla simplex* Michx., var. *calvescens* Fernald. (*P. canadensis*, var. *simplex* of Manual. (1.))

Woodstock	Fernald	1915	W.
-----------	---------	------	----

*FILIPENDULA* (Tourn.) Mill.*Filipendula rubra* (Mill.) Robinson.

Hanover	Williams	1910	G.
---------	----------	------	----

*GEUM* L. *Avens*.*Geum canadense* Jacq.

Plymouth	Fernald	1915	NE.
Lebanon	Williams	1910	G.



*Geum canadense* Jacq., forma glandulosum Fernald & Leatherby. (#1.)

Hanover	Williams	1910	G.
---------	----------	------	----

*Geum virginianum* L.

Lincoln	Kennedy	1921	G.
---------	---------	------	----

*Geum macrophyllum* Willd.

Franconia	Faxon	1887, 1895	NE.
-----------	-------	------------	-----

	Faller	1920	NE.
--	--------	------	-----

*Geum strictum* Mill.

Franconia	Faller	1920	NE.
-----------	--------	------	-----

*Geum rivale* L.

Warren	Williams	1910	G.
--------	----------	------	----

Hanover	Haskins	1915	NE.
---------	---------	------	-----

Lebanon	Haskins	1915	NE.
---------	---------	------	-----

	BMH	1920	NE.
--	-----	------	-----

*Geum Peckii* Pursh.

Franconia	Wm. Root	1863	NE.
-----------	----------	------	-----

	Faxon	1887	G., NE.
--	-------	------	---------

	Fernald, Bailey, Jackson	1915	NE.
--	--------------------------	------	-----

Livermore	Pease	1915	NE.
-----------	-------	------	-----

*Rubus* (Fourn.) L.

*Rubus idaeus* L., var. *strigosus* (Michx.) Maxim. (#2.)

Franconia	Kennedy	1921	NE.
-----------	---------	------	-----

Lincoln	Fernald	1917	NE.
---------	---------	------	-----

Woodstock	Fernald	1917	NE.
-----------	---------	------	-----

Lebanon	BMH	1920	NE.
---------	-----	------	-----

#1. Fernald & Leatherby 1912 Rhod. 24 p. 48.

#2. Fernald 1912 Rhod. 21 p. 96.





*Rubus idaeus* L., var. *canadensis* Richardson. (#1.)

Easton	Fernald	1917	EX.
Woodstock	Fernald	1917	NE.

*Rubus occidentalis* L.

Plymouth	Fernald	1915	NE.
Hanover	Williams	1915	G.
Lebanon	BPH	1920	NE.

*Rubus odoratus* L.

Easton	Fernald	1917	EX.
Warren	Williams	1937	G.
Plymouth	Fernald	1915	NE.
Bridgewater	Howe	1900	BS.
Lebanon	Kennedy	1891	G.
	BPH	1920	NE.

*Rubus pubescens* Raf. (*R. triflorus* of Manual. #2.)

Franconia	Wm. Root	1855	G.
	Kennedy	1890	NE.
Holderness	Fernald	1915	NE.
Lebanon	Fernald, Hunnewell	1920	NE.

*Rubus allegheniensis* Porter.

Lincoln	Fernald	1917	G.
Woodstock	Fernald	1915, 1917	NE.
Thornton	Fernald	1917	NE.
Bath	Fernald	1917	NE.
Haverhill	Fernald	1917	G.
Plymouth	Fernald	1917	NE.
Lebanon	BPH	1920	NE.

#1. Fernald 1919 Rhod. 21 p. 27.

#2. Blanchard 1909 Rhod. 11 p. 236.



## Section SEBAYUE Blackberries.

In this section of the genus *Rubus* I have followed the work of Wainard and Peitersen whose treatment of this group is probably the best at the present time. The species are listed in their alphabetical order instead of in their natural order.

*Rubus canadensis* L.

Franconia	Faxon	1886, 1909	N.
Bath	Fernald	1917	NE.
Lincoln	Fernald	1917	NE.
Woodstock	Fernald	1915, 1917	NE.
Thornton	Fernald	1917	NE.
Plymouth	Fernald	1917	NE.

*Rubus elegantulus* Blanchard.

Bath	Fernald	1917	NE.
Lincoln	Fernald	1917	NE.
Woodstock	Fernald	1917	NE.
Thornton	Fernald	1917	NE.
Plymouth	Fernald	1917	NE.

*Rubus flaccellaris* Willd. (*R. villosus* of Manual. #1.)

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

*Rubus frondosus* Wieg. (*R. recurvens* of Manual. #2.)

Woodstock	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Plymouth	Fernald	1915, 1917	NE.

#1. Wainard & Peitersen 1920 Pt. Agr. Exp. Sta. Bul. 307 p. 45.

#2. Wainard & Peitersen 1920 Pt. Agr. Exp. Sta. Bul. 307 p. 51.



*Rubus hispidus* L.

Woodstock	Fernald	1915	NE.
Thornton	Fernald	1917	NE.
Plymouth	Fernald	1917	NE.

*Rubus perigrinus* Blanchard.

Bath	Fernald	1917	NE.
Lincoln	Fernald	1917	NE.
Woodstock	Fernald	1915, 1917	NE., N.
Thornton	Fernald	1917	NE.
Maverhill	Fernald	1917	NE.

*Rubus setosus* Tuckerm.

Franconia	Kennedy	1913	NE.
Easton	Fernald	1917	NE.
Lincoln	Fernald	1917	NE.
Woodstock	Fernald	1915, 1917	NE.
Thornton	Fernald	1917	NE.
Plymouth	Fernald	1917	NE.

*Rubus vermontensis* Blanchard.

Woodstock	Fernald	1915, 1917	NE.
-----------	---------	------------	-----

*Rubus allegheniensis* X *setosus* (*R. glandicaulis* of Manuel. 1.)

Franconia	Kennedy	1913	NE.
-----------	---------	------	-----

*Rubus Bailleyanus* X *canadensis* or *R. canadensis* X *flagellaris*

(P. multiflorus of Manuel. 2.)

Lincoln	Fernald	1917	NE.
Woodstock	Fernald	1915, 1917	NE.
Thornton	Fernald	1917	NE.
Plymouth	Fernald	1917	NE.

1. Brainerd &amp; Pelterson 1920 Vt. Agr. Exp. Sta. Bul. 217 p. 41.

2. Brainerd &amp; Pelterson 1920 Vt. Agr. Exp. Sta. Bul. 217 p. 41.





*Rubus canadensis* & *pergratus*

Bath	Fernald	1917	VI.
------	---------	------	-----

Lincoln	Fernald	1917	VI.
---------	---------	------	-----

*Rubus flagellaris* & *frondosus* (*R. plicatifolius* Blanchard. #1.)

Bath	Fernald	1917	VI.
------	---------	------	-----

*Rubus frondosus* & *setosus* (*R. abbrevians* of Manual. #2.)

Woodstock	Fernald	1915, 1917	VI.
-----------	---------	------------	-----

Thornton	Fernald	1917	VI.
----------	---------	------	-----

*Rubus bicolor* & *setosus* (*R. triflorus* Blanchard. & *R. jacens* of Manual. #3.)

Lincoln	Fernald	1917	VI.
---------	---------	------	-----

Woodstock	Fernald	1915, 1917	VI.
-----------	---------	------------	-----

Thornton	Fernald	1917	VI.
----------	---------	------	-----

Plymouth	Fernald	1917	VI.
----------	---------	------	-----

*Rubus setosus* & *vermontanus* (*R. vermontanus*, var. *viridifolius* Blanchard. #1.)

Lincoln	Fernald	1917	VI.
---------	---------	------	-----

Woodstock	Fernald	1915, 1917	VI.
-----------	---------	------------	-----

Thornton	Fernald	1917	VI.
----------	---------	------	-----

*Rubus recurvicaulis* Blanchard. (Status uncertain. #1.)

Lincoln	Fernald	1917	VI.
---------	---------	------	-----

Woodstock	Fernald	1915, 1917	VI.
-----------	---------	------------	-----

Thornton	Fernald	1917	VI.
----------	---------	------	-----

*Rubus severus* Brainerd. (Status uncertain.)

Lincoln	Fernald	1917	VI.
---------	---------	------	-----

Woodstock	Fernald	1915, 1917	VI.
-----------	---------	------------	-----

Thornton	Fernald	1917	VI.
----------	---------	------	-----

#1. Brainerd & Peitersen 1920 Vt. Agr. Exp. Sta. Bul. 217 p. 63.

#2. Brainerd & Peitersen 1920 Vt. Agr. Exp. Sta. Bul. 217 p. 65.

#3. Brainerd & Peitersen 1920 Vt. Agr. Exp. Sta. Bul. 217 p. 77.



*Delphinium calce.**Delphinium repens* L.

ethelston	Collins, Morse	1891	W.
Waldorff	Wundersen, Lowenstein	1914	W.
	Fernald	1915	W.
Manover	Williams	1910	W.
Bridgewater	Hove	1901	W.
Kristal	Warner	1901	W.
Lebanon	W.	1923	W.

*Delphinium* (Tourn.) L. *grimonia*.*Delphinium alyssifolium* Willd.

Piscataway	Fernald	1915	W.
------------	---------	------	----

*Delphinium striatum* Michx.

ethelston	Collins	1889	W.
Lincoln	Fernald	1915	W.
Warren	Williams	1910	W.
Manover	Winters	1915	W.
Lebanon	Kennedy	1924	W.

*Delphinium* (Tourn.) L. *rosea*.*Delphinium* Willd.

Franconia	Naxon	1887, 1895	W., W.
Manover	Reported by Jessup (#1.), no specimen seen.		
Lebanon	W.	1923	W.

#1. Jessup 1891 Flora & Fauna p. 17.





*Rosa cinnamomea* L.

Farren	Williams	1907	8.
Manover	Williams	1910	3.

*Rosa pallica* L.

Pierpont	Williams	1912	8.
----------	----------	------	----

*Rosa palustris* Marsh. (R. carolina of Manual. 1.)

Lieber	Faxon	1885	8.
Wentworth	Williams	1908	3.

*Rosa carolina* L. (R. humilis of Manual. 1.)

Liston	Faxon	1891	11.
--------	-------	------	-----

*Rosa carolina* x *palustris*

Freeman	Faxon	1885	8.
---------	-------	------	----

*PRUNUS* (Tourn.) L.*Prunus serotina* Ehrh.

Farren	Williams	1908	8.
--------	----------	------	----

*Prunus virginiana* L.

Frederick	Kennedy	1883	8.
Lebanon	W.H.	1900	8.

*Prunus virginiana* L., forma *leucocarpa* (Wats.) Haynie. (1902)

Frederick	Kennedy	1883	8.
-----------	---------	------	----

*Prunus pennsylvanica* L.f.

Frederick	Faxon	1883	8.
Olderbrook	Botany 7,	1905	8.
Lebanon	W.H.	1900	8.

1. Fernald 1918 Rhod. 20 p. 91.

2. Fernald 1922 Rhod. 25 p. 71.



*Trifolium subrepens* Willd. (*T. cuneata* of Manual. 1.)

Wethers	Fernald	1916	W.
---------	---------	------	----

*Trifolium depressum* Pursh. (*T. ovale* of Manual. 2.)

Beth	Fernald	1917	W.
------	---------	------	----

Plymouth	Faxon	1896	G.
----------	-------	------	----

	Fernald, Foxilton	1915	W.
--	-------------------	------	----

Wethers	Fernald	1916	W.
---------	---------	------	----

Manover	Reported by Jesus 1891, no specimens seen.		
---------	--	--	--

*Trifolium nigra* Willd.

Wethers	Faxon	1896	G.
---------	-------	------	----

Frederick	Faxon	1896, 1892	W.
-----------	-------	------------	----

Wethers	Botany 7.	1915	W.
---------	-----------	------	----

#### FAMILY LEGUMINOSAE

*Trifolium* (Tourn.) L. Clover. Trefoil.

*Trifolium pratense* L.

Plymouth	Fernald	1916	W.
----------	---------	------	----

Wethers	Gundersen, Lowenstein	1914	W.
---------	-----------------------	------	----

*Trifolium repens* L.

Wethers	Gundersen, Lowenstein	1914	W.
---------	-----------------------	------	----

*Trifolium hybridum* L.

Wethers	Gundersen, Lowenstein	1914	W.
---------	-----------------------	------	----

*Trifolium vavilovii* L.

Wethers	Gollins	1901	W.
---------	---------	------	----

Wethers	Gundersen, Lowenstein	1914	W.
---------	-----------------------	------	----

*Trifolium pratense* L.

Manover	Williams	1917	.
---------	----------	------	---

1. Fernald 1923 Rhod. 25 p. 71.

2. Fernald 1923 Rhod. 25 p. 69.

3. Jesus 1891 Flora & Fauna p. 12.



HELIOPSIS (Tourn.) Mill. Sweet Clover.

*Helipsetus officinalis* (L.) Lam.

Manchester	Williams		7.
------------	----------	--	----

*Helipsetus alba* Desr.

Townstock	Fernald	1917	7.
-----------	---------	------	----

Warren	Williams	1910	8.
--------	----------	------	----

ASTRAGALUS (Tourn.) L.

*Astragalus alpinus* L., var. *bruneticus* Fernald.

Adm	Pease	1906	8.
-----	-------	------	----

TRICARPA Desv. Tick Trefoil.

*Desmodium nudiflorum* (L.) G.

Feverhill	Fernald	1917	8.
-----------	---------	------	----

*Desmodium grandiflorum* (Vahl.) DC.

Millerton	Lowell	1906	8.
-----------	--------	------	----

Feverhill	Fernald	1917	8.
-----------	---------	------	----

Wentworth	Williams	1909	8.
-----------	----------	------	----

Plymouth	Fernald	1915	8.
----------	---------	------	----

*Desmodium Ollienii* Earl.

Plymouth	Fernald	1915	8.
----------	---------	------	----

Lebanon	Kennedy	1907	8.
---------	---------	------	----

*Desmodium paniculatum* (L.) DC.

Kidderness	Linder	1907	8.
------------	--------	------	----

*Desmodium canadense* (L.) Mill.

Conroe	Pease	1906	8.
--------	-------	------	----

Plymouth	Fernald	1915	8.
----------	---------	------	----

Lebanon	Kennedy	1900, 1905	8., 8.
---------	---------	------------	--------





*Lespedeza canadensis* & *Millenii*

Plymouth	Fernald	1915	4.
----------	---------	------	----

*LESPEDEZA* Michx. Bush Viper.

*Lespedeza Marshallii* Nutt.

Hollisnass	Vaxon	1920	4.
------------	-------	------	----

*Lespedeza intermedia* (Walt.) Britton. (L. *Frutescens* of Manual. (1.))

Hollisnass	Wilder	1915	4.
------------	--------	------	----

*Lespedeza cuneata* Michx.

Weth	Fernald	1917	4.
------	---------	------	----

Haverhill	Fernald	1917	4.
-----------	---------	------	----

Vineyard	Fernald	1915	4.
----------	---------	------	----

*VICIA* (Tourn.) L. Vase.

*Vicia cracca* L.

Hollisnass	Korva	1921	4.
------------	-------	------	----

Hollisnass	Gundersen, Lowenstein	1914	4.
------------	-----------------------	------	----

*VICIA* (Foerh.) Ludwig. Groundnut.

*Vicia sativa* L.

Plymouth	Fernald	1915	4.
----------	---------	------	----

Knowlton	1917, 1921	4.
----------	------------	----

Hollisnass	Gundersen, Lowenstein	1914	4.
------------	-----------------------	------	----

*ARACHIS* Will. Hog Peanut.

*Arachis montana* (L.) Will.

Kentworth	Williams	1923	4.
-----------	----------	------	----

Plymouth	Knowlton	1917	4.
----------	----------	------	----

Hollisnass	Gundersen, Lowenstein	1914	4.
------------	-----------------------	------	----



## ORDER GERANIALES

## FAMILY OXALIDACEAE

## OXALIS L. Wood Sorrel.

*Oxalis montana* Raf. (*O. Acetosella* of Manual. #1.)

Bethlehem	Collins	1891	G.
Franconia	Morse	1839	W.
Lincoln	Kennedy	1893	G.
Woodstock	Fernald	1915	W.
Warren	Williams	1908	G.
Holderness	Gundersen, Lowenstein	1914	W.
Lebanon	W.H.	1920	W.

*Oxalis europea* Jordan. (*O. Corniculata* of Manual. #2.)

Franconia	Kennedy	1910	G.
Warren	Williams	1907	G.
Holderness	Gundersen, Lowenstein	1914	W.
Lebanon	W.H.	1920	W.

*Oxalis europea* Jordan., *varia cymosa* (Small) Wiegand. (#2.)

Hanover	Williams	1910	G.
---------	----------	------	----

## FAMILY GERANIACEAE

## GERANIUM (Lour.) L. Cranesbill.

*Geranium Richardsonii* Britton.

Hanover	Pease	1845	W.
---------	-------	------	----

*Geranium L'Her.* Cranesbill.*Geranium cicutarium* (L.) L'Her.

Lebanon	Tetlors	1893	G.
---------	---------	------	----

#1. Fernald 1920 Rhod. 22 p. 145.

#2. Wiegand 1925 Rhod. 27 p. 113-126, 153-159.



## FAMILY POLYGALACEAE

POLYGALA (Fourn.) L. Milkwort.

*Polygala pennsylvanica* Willd.

Haverhill	Fernald	1917	NY.
Holderness	Fernald	1915	NY.
Hanover	Shivers	1902	N.
	Haskins	1915	NY.
Lebanon	Kennedy	1896	N.
	BTH.	1923	NY.

*Polygala polygama* Felt.

Plymouth	Fernald	1915	NY.
----------	---------	------	-----

*Polygala sanguinea* L.

Holderness	Swenson	1931	NY.
------------	---------	------	-----

## FAMILY EUPHORBIACEAE

ACALYPHA L. Three-Seeded Mercury.

*Acalypha virginica* L.

Lebanon	Kennedy	1896	N.
---------	---------	------	----

EUPHORBIA L. Spurge.

*Euphorbia hirsuta* (L.) Hieron.

Haverhill	Fense	1913	NY.
Lebanon	Kennedy	1896	N.

*Euphorbia maculata* L.

Woodstock	Fernald	1913	NY.
Plymouth	Fernald	1915	NY.
Hanover	Williams	1910	N.

*Euphorbia corollata* L.

Watson	Mathews	1907	N.
--------	---------	------	----





*Euphorbia Cynaristias* L.

Holderness	Gundersen, Lowenstein	1914	VI.
------------	-----------------------	------	-----

## FAMILY CALLITRICHACEAE

CALLITRICHE L. Peter Bartsch.

*Callitriche salustria* L.

Frederonia		1908	.
Hanover	Williams	1913	.
Enfield	Kennedy	1921	.

## ORDER SAPIINDALES

## FAMILY EMPETRACEAE

EMPETRUM (Lam.) L. Snowberry.

*Empetrum nigrum* L.

Frederonia	Williams	1904	.
	Fernald, Jackson, Smiley	1915	.
Benton	Blake (Reported by Jesup, #1., no specimen seen)		
Holderness	Gundersen, Lowenstein	1914	III.

*Empetrum atropurpureum* Fernald & Wiegand (#2.)

Wassilaue (Benton) Emerton	1914	80.
----------------------------	------	-----

## FAMILY ANACARDIACEAE

RHUS L. Sumach.

*Rhus typhina* L.

Woodstock	Fernald	1914	VI.
Holderness	Gundersen, Lowenstein	1914	VI.
Hanover	Wickard	1914	G.
Lebanon	Kennedy	1912	.

1. Jesup 1891 Flora &amp; Fauna p. 40.

2. Fernald &amp; Wiegand 1913 Rhod. 15 p. 214.



*Rhus glabra* L.

Heverhill	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.
Holderness	Andersen, Loewenstein	1914	NE.
Lenox	Wheeler	1921	NE.
Lebanon	Kennedy	1920	.
	W.H.	1920	NE.

*Rhus copallina* L.

Plymouth	Fernald	1915	NE.
Holderness	Recorded by Jesup (1901), no specimen seen.		

*Rhus Toxicodendron* L.

Warren	Williams	1904	.
Plymouth	Fernald	1915	NE.
Lebanon	W.H.	1920	NE.

## FAMILY ANACARDIACEAE

*Ilex L.* Holly*Ilex verticillata* (L.) Ray. Black Alder.

Franconia	Kennedy	1907, 1910	G., NE.
Holderness	Andersen, Loewenstein	1914	NE.
Lebanon	Kennedy	1920	NE.

*Ilex opacifolia* Mill. Mountain Holly.*Amelanchier alnifolia* (L.) Mill.

Holderness	Botany 7.	1915	NE.
Lincoln	Kennedy	1921	NE.
Alexandria	Rich	1920	NE.



## FAMILY MELASTOMACEAE

## CELASTRUS L.

*Celastrus scandens* L.

Barren	Williams	1908	AL.
Plymouth	Fernald, Munneville	1915	MS.
Lebanon	SPB	1920	MS.

## FAMILY STAPHYLEACEAE

## STAPHYLEA L. Bladder Nut.

*Staphylea trifolia* L.

Lebanon	SPB	1920	MS.
---------	-----	------	-----

## FAMILY ACERACEAE

## ACER (Tourn.) DC. Maple.

*Acer pennsylvanicum* L.

Holderness	Botany 7.	1915	MS.
Canaan	Winlow	1913	MS.
Lebanon	Fernald, Munneville	1920	MS.

*Acer spicatum* Lam.

Franconia	Dr. Boott	1855	.
	Munneville	1911	MS.
	St. John	1912	MS.
Lincoln	Dr. Boott	1855	.
Waterville	Cushman	1912	MS.
Plymouth	Borner		MS.
Holderness	Botany 7.	1915	MS.
Hanover	Richard	1916	MS.
Lebanon	Kennedy	1890	MS.
	Fernald, Munneville	1920	MS.





*Acer saccharum* Marsh.

Warren	Williams	1903	✓
Lebanon	Kennedy	1887	✓
	Bernald, Munnsell	1920	✓

*Acer saccharinum* L.

Hanover	Williams	1903	✓
Lebanon	Bernald, Munnsell	1920	✓

*Acer rubrum* L.

Wentworth	Williams	1903	✓
Lebanon	BM	1920	✓

## FAMILY SAPINDACEAE

*Aesculus glabra* L. Horse-Chestnut.*Aesculus glabra* Willd.

Hanover	Chivers	1902	✓
---------	---------	------	---

## ORDER RHAMNALES

## FAMILY RHAMNACEAE

*Rhus glabra* (L.) L. Suckthorn.*Rhus glabra* L.

Bethlehem	Feale	1917	✓
Condon	Reported by Jesup (l.), no specimen seen.		

*Rhus glabra* L. Red-Root.*Rhus glabra* L. New Jersey Tea.

Waverhill	Bernald	1917	✓
Lebanon	Reported by Jesup (l.), no specimen seen.		



## FAMILY VITACEAE

PARFENOCLEUS Planch. (Psepha of Manual. l.)

Parfenoctenus vitacea (Enerr.) Hitch. (Psepha vitacea of Manual. l.)

Franconia	E. Paxson	1909	7.
	Kennedy	1910	77.

## VIII: (Tourn.) L. Grape.

Vitis latifolia L.

Benoyer	Burbank	1901	3.
---------	---------	------	----

Vitis vulpina L.

Warren	Williams	1908	2.
Flymouth	Fernald, Newlton	1915	77.

Vitis rotundifolia L. (2.)

Bath	Fernald	1917	77.
Flymouth	Fernald	1917	77.
Walden	Winnell	1921	77.
Walden	Winnell	1878	7.
Lebanon	Kennedy	1907	7.
	Winnell	1920	77.

## FAMILY MALVACEAE

## FAMILY TILIACEAE

TILIA (Tourn.) L. Basilwood.

Tilia americana L.

Woodstock	Fernald	1915	77.
Warren	Williams	1908	7.

1. Wiegand &amp; Eames 1924 Cornell Univ. Agr. Exp. Sta. Mem. 92 p. 296.

2. Fernald 1917 Rhod. 12 p. 144-147.



Centworth	Williams	1908	fl.
Plymouth	Fernald	1915	fl.
Lebanon	Kennedy	1892, 1894	fl.
	W.H.	1922	fl.

## FAMILY MALVACEAE

MALVA (Tourn.) L. Mallow.

*Malva moschata* L.

Lebanon		1916	fl.
---------	--	------	-----

HIBISCUS L. Rose Mallow.

*Hibiscus Trionum* L.

Hanover Reported by Jesup(Pl.), no specimen seen.

Lebanon	Kennedy	1891	fl.
---------	---------	------	-----

## ORIGIN VIOLACEAE

## FAMILY HYPERICACEAE

HYPERICUM (Tourn.) L. St. John's-wort.

*Hypericum Aegyron* L.

Lebanon	Kennedy	1890, 1912	fl.
---------	---------	------------	-----

*Hypericum punctatum* Lam.

Plymouth	Fernald, Inowilton	1915	fl.
----------	--------------------	------	-----

Warren	Williams	1908	fl.
--------	----------	------	-----

Lebanon	Bartow	1895	fl.
---------	--------	------	-----

*Hypericum ellipticum* Hook.

Bethlehem	Barton, L.	1895	fl.
-----------	------------	------	-----





Franconia	Paxon	1925	NE.
Woodstock	Fernald	1915	NE.
Warren	Paxon	1925	G.
Holderness	Munnell	1921	NE.
Canaan	Winslow	1913	NE.

*Hypericum mutilum* L.

Franconia	Kennedy	1917	G.
Warren	Paxon	1925	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
Hanover	Carlton	1900	G.

*Hypericum canadense* L.

Woodstock	Fernald	1915	NE.
Waterville	Cushman	1912	NE.
Warren	Paxon	1925	G.
Holderness	Gundersen, Lowenstein	1914	NE.
Canaan	Winslow	1913	NE.

*Hypericum virginicum* L.

Franconia	W. Scott	1963	G.
Canaan	Winslow	1913	NE.

FAMILY CISTACEAE

*Helianthemum* (Tourn.) Will.

*Helianthemum Bicknellii* Fernald. (H. *cajus* of Manual. 1.)

Beth	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.



**LECHEA (Kalm)L.**

**Lechea intermedia Leggett.**

Sentworth	Williams	1910	NE.
Plymouth	Fernald	1915	NE.
Holderness	Faxon	1886	NE.
	Rundersen, Lowenstein	1914	NE.
Manover	Williams		NE.

**FAMILY VIOLACEAE**

**Viola (Tourn.)L. Violet.**

**Viola cucullata Mt.**

Franconia	Kennedy	1910	G.
Lebanon	SPH	1920	NE.

**Viola latiuscula Greene.**

Lebanon	SPH	1920	NE.
---------	-----	------	-----

**Viola exiliflora Pursh.**

Lebanon	Kennedy	1887	G.
	SPH	1920	NE.

**Viola septentrionalis Greene.**

Franconia	Kennedy	1910	G.
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
Lebanon	Kennedy	1900	G.
	SPH	1920	NE.

**Viola fimbriatula Sm.**

Haverhill	Fernald	1917	NE.
Plymouth	Fernald, Knowlton	1915	NE.
Bridgewater	Horner	1882	NE.
Lebanon	Kennedy	1900	G.



*Viola Selkirkii* Pursh.

Franconia	Faxon	1888, 1891, 1892	NE.
	Fuller	1890	NE.
	Williams	1894	NE.
Lebanon	Benton	1920	NE.

*Viola palustris* L.

Franconia	Faxon	1887	N.
Benton	Eggleston	1898	N.

*Viola pallens* (Pursh) Wainard.

Lincoln	Kennedy	1891	N.
Holderness	Sundersea, Lowenstein	1914	NE.

*Viola blanda* Willd.

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Viola incognita* Wainard.

Holderness	Fernald	1915	NE.
------------	---------	------	-----

*Viola renifolia* Gray.

Lebanon	BPH	1920	NE.
---------	-----	------	-----

*Viola rotundifolia* Michx.

Franconia	Fuller	1885	NE.
	Faxon	1892	NE.
Lincoln	Fernald	1915	NE.
Woodstock	Fernald	1915	NE.
Waterville	Fuller	1892	NE.
Warren	Williams	1907	N.
Holderness	Fernald	1915	NE.
Lebanon	BPH	1920	NE.

*Viola pubescens* Ait.

Holderness	Fernald	1915	NE.
Lebanon	Haskins	1915	NE.





*Viola eriocarpa* Schwein., var. *leiocarpa* Fernald & Wiegand.(V. *scabriscala* of Manual. #1.)

Franconia	Faxon	1887, 1898	NE.
Woodstock	Fernald	1915	NE.
Farren	Williams	1907	G.
Lebanon	Kennedy	1892	G.
	BFW	1920	NE.

*Viola conspersa* Reichenb.

Hanover	Williams	1910	G.
Lebanon	Kennedy	1900	G.
	Pease	1907	NE.
	BFW	1920	NE.

*Viola adunca* J.E. Smith. (V. *arenaria* of Manual. #2.)

Woodstock	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Plymouth	Fernald, Knowlton	1915	NE.
Walderness	Fernald	1915	NE.
Hanover	Williams	1910	G.
Lebanon	Kennedy	1900	G.
	Pease	1907	NE.
	Fernald, Munnewell	1920	NE.

*Viola tricolor* L.

Farren	Williams	1910	G.
--------	----------	------	----

#1. Fernald 1921 Rhod. 23 p. 275-6.

#2. Brainerd 1913 Rhod. 15 p. 106-111.



## ORDER MYTTALES

## FAMILY MYTILLACEAE

DIRCA L. Moosewood.

Dirca palustris L.

Haverhill	Fernald	1917	W.
Hanover	Chivers	1903	S.
Lebanon	Kennedy	1898	G., W.

## FAMILY LYTHACEAE

LECODON L.F. Small. Swamp Loosestrife.

Lecodon verticillatus (L.) Mill., var. laevigatus Torr. &amp; Gray. (L.)

Holderness	Sundersen, Lowenstein	1914	W.
------------	-----------------------	------	----

LYTHRUM L. Loosestrife.

Lythrum Salicaria L.

Lisbon	Stevens	1906	S.
Hanover	Sargent	1892	S.

## FAMILY LUDWIGIACEAE

LUDVIGIA L. False Loosestrife.

Ludvigia palustris (L.) Mill.

Hanover	Williams	1910	S.
---------	----------	------	----

EPILONIUM L. Willow-Herb.

Epilobium angustifolium L. Fireweed.

Holderness	Sundersen, Lowenstein	1914	W.
------------	-----------------------	------	----



*Epilobium molle* Torr.

Haverhill	Fernald	1917	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
	Hunnell	1921	NE.

*Epilobium densum* Raf.

Franconia	C. Paxon, Fuller	1890	NE.
Plymouth	Knowlton	1915	NE.
Holderness	Gundersen, Lowenstein	1914	NE.

*Epilobium coloratum* Muhl.

Franconia	Paxon	1890	N., NE.
Lebanon	Kennedy	1891	N.

*Epilobium glandulosum* Liebm., var. *adenocaulon* (Hausskn.) Fernald.(E. *adenocaulon* of Manual. #1.)

Bethlehem	Paxon	1890	NE.
Franconia	Paxon	1890, 1891	N., NE.
Lincoln	Kennedy	1891	NE.
Plymouth	Knowlton	1917	NE.

*OENOTHERA* L. Evening Primrose.*Oenothera nerviflora* L. (O. *auricata* of Manual. #2.)

Plymouth	Knowlton	1923	NE.
----------	----------	------	-----

*Oenothera biennis* L. (O. *biennis* of Manual. #3.)

Woodstock	Fernald	1915	NE.
Holderness	Gundersen, Lowenstein	1914	NE.
Lebanon	Kennedy	1891	N.

#1. Fernald 1918 Rhod. 20 p. 25.

#2. Wiegand 1924 Rhod. 26 p. 3.

#3. Pennell 1919 Bul. Torr. Bot. Club 46 p. 372.





*CIRCAEA* (Tourn.) L. Enchanter's Nightshade.

*Circaea latifolia* Mill. (*C. latetiana* of Manual. #1.)

Plymouth	Fernald	1915	W.
Holderness	Seeds, Svenson	1921	W.
Hamover	Williams	1910	G.
Lebanon	Bartow	1922	W.
	Williams	1910	G.

*Circaea canadensis* Mill. (*C. intermedia* of Manual. #2.)

Plymouth	Fernald	1915	W.
----------	---------	------	----

*Circaea alpina* L.

Bethlehem	Winnemwell	1926	W.
Frederick	Russell		G.
Litcher	Crake		W.
Lebanon	Bartow	1922	W.

FAMILY MALVACEAE

*MYRIOPHYLLUM* (Vaill.) L. Water Milfoil.

*Myriophyllum verticillatum* L., var. *neotinctum* Walbr.

Lebanon	Kennedy	1920	G.
---------	---------	------	----

*Myriophyllum tenellum* Sigel.

Frederick	Dr. Scott	1952	G.
	C. Faxon	1894	G.
Orford	Hartwell	1924	G.
Enfield	Kennedy	1920	G.

1. Fernald 1915 Rhod. 17 p. 222-224.

2. Fernald 1917 Rhod. 19 p. 87.



## ORDER UMBELLALES

## FAMILY ANALIACEAE

## ARALIA (Tournef.) L.

*Aralia racemosa* L.

Bethlehem	Munnewell	1896	NY.
Waterville	Dushman	1912	NY.
Warren	Williams	1907	NY.
Bristol	Horner		NY.
Lebanon	Kennedy	1890	NY.
	Pease	1890	NY.
	BPH	1890	NY.

*Aralia hispida* Vent.

Franconia	Fernald	1915	NY.
-----------	---------	------	-----

*Aralia nudicaulis* L.

Woodstock	Fernald	1915	NY.
Waterville	Dushman	1912	NY.
Holderness	Fernald	1915	NY.
Lebanon	BPH	1890	NY.

## PANAX L. Ginseng.

*Panax quinquefolium* L. Ginseng.

Warren	Williams	1907	NY.
Lebanon	Lexter	1917	NY.

*Panax trifolium* L. Ground-Nut.

Woodstock	Fernald	1915	NY.
Holderness	Fernald	1915	NY.
Lebanon	Kennedy	1890, 1894	NY., ME.



## FAMILY UMBELLIFERAE

## SANTICULA (Tourn.) L.

*Santicula meridionalis* L.

Wentworth	Williams	1903	7.
Plymouth	Fernald	1915	88.
Holderness	Gundersen, Lowenstein	1914	78.
Lebanon	Kennedy	1907	7.
	API	1900	78.

## HYDROCOTYLE (Tourn.) L.

*Hydrocotyle americana* L.

Littleton	Russell	1902	7.
Woodstock	Fernald	1915	88.
Holderness	Gundersen, Lowenstein	1914	78.

## OENORHIZA Raf. Sweet Cicely.

*Oenorrhiza Gleasoni* (Michx.) Clarke.

Woodstock	Fernald	1915	88.
Lebanon	Fernald, Bunnell	1900	88.

*Oenorrhiza longistylis* (Torr.) DC.

Penton	Flint	1901	88.
Lebanon	Kennedy	1900	8.

## CONIUM L. Poison Hemlock.

*Conium maculatum* L.

Manover	Williams	1903	2.
---------	----------	------	----





## CICUTA L. Water Hemlock.

*Cicuta bulbifera* L.

Orford	Williams	1908	Y.
Sentworth	Williams	1908	Y.
Winfield	Kennedy	1890	Y.
Manover	Williams	1910	Y.

## CICUTA L. Water Hemlock.

*Carum Carvi* L.

Molderness	Hundersen, Lowenstein	1914	NY.
Lebanon	Hervey	1916	NY.

## CICUTA (Pourn.) L. Water Parsnip.

*Cicuta suave* Walter. (*C. cicutaefolia* of Manual. 1.)

Molderness	Hundersen, Lowenstein	1914	NY.
Tanaan	Winslow	1912	NY.

## CRYPTOTEAENIA L. Bonesort.

*Cryptoteaenia canadensis* (L.) DC.

Lisbon	Faxon	1897	NY.
Bath	Knowlton	1915	NY.
Plymouth	Knowlton	1915	NY.
Bristol	Horner	1882	NY.
Lebanon	Kennedy	1896	NY.

## ZIZIA Koch.

*Zizia aurea* (L.) Koch. Golden Alexander.

Bethlehem	Faxon	1897	NY.
-----------	-------	------	-----



Woodstock	Fernald	1915	VI.
Warren	Williams	1903	II.
	Knowlton	1912	VI.
Hanover	Haskins	1915	VI.
Lebanon	BPH	1920	VI.

*PASTINACA* L. Parsnip.

*Pastinaca sativa* L.

Holderness	Hove	1916	VI.
------------	------	------	-----

*PASTINACA* L. Parsnip.

*Heracleum lanatum* Michx.

Franconia	W. Foott.	1955	II.
-----------	-----------	------	-----

*OSTEOGASTER* Fisch.

*Osteoselinum virginicum* (L.) W.P.

Lincoln	Fernald	1915	VI.
Conan	Reported by Jesup (1.), no specimen seen.		
Lebanon	Kennedy	1900	II.
	BPH	1900	VI.

*Daucus* (Lour.) L. Carrot.

*Daucus Carota* L.

Holderness	Henderson, Lowenstein	1916	VI.
Hanover	Williams	1915	II.

1. Jesup 1891 Flora & Fauna p. 16.



## FAMILY CORNACEAE

1870 (Young), L. Dogwood.

*Cornus canadensis* L.

Frederonia	Fernald	1915	vt.
	Russell	1917	3.
Waterville	Cushman	1913	vt.
Warren	Knowlton	1913	vt.
Holderness	Gundersen, Lowenstein	1914	vt.
Lebanon	Waskins	1915	vt.
	W.H.	1920	vt.

*Cornus rugosa* L. (C. circinata of Manual. - 1.)

Plymouth	Fernald	1915	vt.
Holderness	Gundersen, Lowenstein	1914	vt.
Warren	Williams	1917	3.
Manover	Flint; reported by Jesup (2.), no specimen seen.		

*Cornus Linn. Mill.*

Portworth	Williams	1919	3.
Lebanon	Kennedy	1890	vt.
	Williams	1910	3.

*Cornus Fernaldi* Koehe (2.)

Lebanon	Kennedy	1890	vt.
---------	---------	------	-----

*Cornus stolonifera* Michx.

Plymouth	Fernald	1915	vt.
Manover	Williams	1910	3.
Lebanon	W.H.	1920	vt.

1. Rehder 1912 Rhod. 12 p. 122.

2. Jesup 1891 Flora &amp; Fauna p. 18.

3. Koehe 1899 Gartenflora 43 p. 538.





*Cornus alternifolia* L.f.

Lebanon	WPH	1920	W.
---------	-----	------	----

## FAMILY ERICACEAE

## FAMILY ERICACEAE

*Chimaphila* Pursh. Pipevine.*Chimaphila umbellata* (L.) Nutt., var. *cisatlantica* Blake. (#1.)

Naterville	Cushman	1912	W.
Holderness	Gundersen, Lowenstein	1914	W.
Lebanon	WPH	1920	W.

## MOSES Salisb. One-flowered Pyrola.

*Moneses uniflora* (L.) Gray.

Bethlehem	Pease	1913	W.
Holderness	Gundersen, Lowenstein	1914	W.
	Foxe	1916	W.
Hanover	Stewart	1908	W.
	Williams	1910	W.
Lebanon	Kennedy	1890	W.
	Haskins	1915	W.

## PYROLA (Tournef.) Thin leaf.

*Pyrola minor* L.

Franconia	Vernald, Smiley	1915	W.
Lincoln	Faxon	1895	W.
Naterville	Foxe	1916	W.

*Pyrola secunda* L.

Bethlehem	Williams	1895	W.
-----------	----------	------	----



Lincoln	Kennedy	1899	NE.
	Russell	1917	W.
Woodstock	Fernald	1915	NE.
Lebanon	Barton	1882	NE.

*Pyrola chlorantha* Sw.

Holderness	Sunderman, Lowenstein	1914	NE.
Hanover	Stewart	1902	W.

*Pyrola chlorantha* Sw., var. *paniculata* Fernald. (1.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Pyrola elliptica* Nutt.

Franconia	Russell		W.
Yeterville	Clarkson	1912	W.
Holderness	Sunderman, Lowenstein	1914	NE.
Hanover	Stewart	1902	W.

*Pyrola rotundifolia* L., var. *americana* (Sweet.) Fernald.

(*P. americana* of Fernald. (2.)

Franconia	Russell		W.
Plymouth	Fernald	1915	NE.
Holderness	Hone	1916	NE.
Lebanon	SPH	1900	NE.

*Pyrola asarifolia* Michx.

Lebanon	Hackins	1915	NE.
---------	---------	------	-----

*Pyrola* L. Indian Pipe.

*Monotropa uniflora* L.

Plymouth	Castille	1915	NE.
Holderness	Sunderman, Lowenstein	1914	NE.

#1. Fernald 1922 Rhod. 22 p. 81.

#2. Fernald 1920 Rhod. 22 p. 122.



*Monotropia Hypopitys* L.

Warren	Williams	1910	W.
Holderness	Sandersen, Lowenstein	1914	W.

*PTEROSPORA* Nutt.

*Pterospora andromedea* Nutt.

Hanover	Olivers	1903	W.
Lebanon	Reported by Jesup (1.), no specimens seen.		

*LEDUM* L. Labrador Tea.

*Ledum groenlandicum* Oeder.

Franconia	Kennedy	1912	W.
	Fernald, Bailey	1915	W.
Livermore	Lane	1878	G.
Hanover	Kennedy	1902	W.

Reported by Jesup (1.) from Orange, Canaan, and Lebanon, no specimens seen.

*RHODODENDRON* L.

*Rhododendron nudiflorum* (L.) Torr.

Lebanon	Suggles	1837	W.
---------	---------	------	----

*Rhododendron nudiflorum* (L.) Torr., var. *roseum* (Loisel.) Wiegand  
(*R. canescens* of Manual. 2.)

Bath	Pease	1926	W.
------	-------	------	----

*Rhododendron viscosum* (L.) Torr.

Lebanon	Haskins	1915	W.
---------	---------	------	----

1. Jesup 1891 Flora & Fauna p. 26.

2. Wiegand 1924 Rhod. 26 p. 4.





*Rhododendron canadense* (L.) B.S.P. Rhodora.

Franconia	Kennedy	1910	G.
	Fernald, Smiley	1915	NY.
Warren	Williams	1913	G.

Reported by Jesup(#1.) from Plymouth, Hanover, and Ganaan, no specimens seen.

*KALMIA* L. Laurel*Kalmia latifolia* L. Mountain Laurel.

Holderness	Sundersen, Lowenstein	1914	NY.
Ashland	Reported by Jesup(#1.), no specimen seen.		

*Kalmia angustifolia* L. Sheep Laurel.

Franconia	Williams	1908	G.
	Fernald, Smiley	1915	NY.
Lincoln	Kennedy	1891	NY.
Holderness	Sundersen, Lowenstein	1914	NY.
Lebanon	Eaton	1915	NY.

*Kalmia polifolia* Wang. Pale Laurel.

Bethlehem	Faxon	1879, 1881	G., NY.
Franconia	Wm. Booth	1855	G..
	Fernald, Smiley	1915	NY.
Lisbon	C. Faxon	1887	NY.
Lincoln	Kennedy	1891	NY.
Hanover	Reported by Jesup(#1.), no specimen seen.		
Enfield	Kennedy	1890	G.
Lebanon	Kennedy	1894	G.



## PHYLLODOCE Salisb.

*Phyllodoce coerules (L.) Rab.*

Franconia	Fernald	1915	W.
-----------	---------	------	----

## ANDROMEDA L.

*Andromeda glaucophylla Link.*

Franconia	Wm. Booth	1863	G.
Lisbon	Faxon	1897, 1899	W., G.
Winfield	Kennedy	1899	W.
Lebanon	Kennedy	1894	G.

CHAMAEDAPHNE Moench. *Cassandra.**Chamaedaphne calyculata (L.) Moench.*

Franconia	Williams	1908	G.
	Kennedy	1910	G.
	Fernald, Smiley	1915	W.
Centworth	Williams	1908	G.
Holderness	Botany 7	1915	W.

EPIGAEA L. *Trailing Arbutus.**Epigaea repens L.*

Franconia	Faxon	1898	G.
Plymouth	Fernald	1915	W.
	Inglton	1917	W.
Hanover	Barton	1895	W.
Lebanon	Kennedy	1895	G.
	Wm.	1920	W.



## GAULTHERIA (Kalm.) G.

*Gaultheria procumbens* L. Checkerberry.

Franconia	Russell		G.
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
	Evenson	1921	NE.
Hanover	Stewart	1938	G.
Lebanon	W.H.	1920	NE.

*Gaultheria procumbens* L., forma *elongata* Svenson. (#1.)

Holderness	Evenson	1921	NE.
------------	---------	------	-----

## ARCTOSTAPHYLOS adans. Bearberry.

*Arctostaphylos Uva-ursi* (L.) Spreng., var. *coactilis* Fernald & Macbride. (#2.)

Bath	Pease	1926	NE.
------	-------	------	-----

## CHLORENE Galieb. Drooping Snowberry.

*Chlorenes hispidula* (L.) DC.

Pethlehen	Gollins	1891	—.
Franconia	Wm. Boott	1855	G.
	Faxon	1891	—.
	Russell	1917	G.
Woodstock	Fuller	1895	—.
Waterville	Cushman	1912	—.
Benton	Williams	1907	G.
Holderness	Gundersen, Lowenstein	1914	—.
	Fernald	1915	—.

#1. Svenson 1923 Rhod. 25 p. 124.

#2. Fernald &amp; Macbride 1914 Rhod. 16 p. 212.





## GAYLUSSACIA HBK. Huckleberry.

*Gaylussacia baccata* (Wang.) O. Koch.

Bath	Fernald	1917	NE.
------	---------	------	-----

Haverhill	Fernald	1917	NE.
-----------	---------	------	-----

Reported by Jesup(#1.) from Hanover and Lebanon, no specimens seen.

*Gaylussacia baccata* (Wang.) O. Koch., forma *glaucoearpa* (Robinson.) Mackenzie(#2.)

Bath	Fernald	1917	NE.
------	---------	------	-----

## VACCINIUM L.

*Vaccinium pennsylvanicum* Lam.

Franconia	Faxon	1897	NE.
-----------	-------	------	-----

	Fernald, Smiley	1915	NE.
--	-----------------	------	-----

Benton	Williams	1907	G.
--------	----------	------	----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Lebanon	EFH	1920	NE.
---------	-----	------	-----

*Vaccinium pennsylvanicum* Lam., var. *angustifolium* (Ait.) Gray.

Franconia	Fernald, Jackson, Smiley	1915	NE.
-----------	--------------------------	------	-----

*Vaccinium canadense* Kalm.

Lincoln	Kennedy	1833	NE.
---------	---------	------	-----

Waterville	Kennedy	1912	NE.
------------	---------	------	-----

Enfield	Kennedy	1890	G.
---------	---------	------	----

Lebanon	Eaton	1920	NE.
---------	-------	------	-----

*Vaccinium vacillans* Kalm.

Hanover	Reported by Jesup(#1.), no specimen seen.		
---------	---	--	--

Lebanon	EFH	1920	NE.
---------	-----	------	-----

#1. Jesup 1891 *Flora & Fauna* p. 25.

#2. Mackenzie 1907 *Torreya* 7 p. 60.



*Vaccinium atrococcum* (Grav.) Heller

Winfield	Kennedy	1890	G.
----------	---------	------	----

*Vaccinium uliginosum* L., var. *alpinum* Sigel. (1.)

Franconia	Wm. Boott	1855	NE.
	Fernald, Jackson	1915	NE.
Benton	Williams	1907	G.
	Emerton	1912	BS.
Warren	Carleton	1898	NE.

*Vaccinium uliginosum* L., var. *pubescens* Lange. (2.) (Probably var. *alpinum*)

Franconia	St. John	1912	NE.
	Fernald, Smiley	1915	NE.

*Vaccinium caespitosum* Michx.

Franconia	Fernald, Smiley	1915	NE.
Bath	Pease	1926	NE.
Woodstock	Fernald	1915/1916	NE.
Livermore	Pease	1913	NE.

*Vaccinium Vitis-Idaea* L., var. *minus* Lodd.

Franconia	Faxon	1892	NE.
	Fernald, Smiley	1915	NE.
	Russell		G.
Livermore	Wm. Boott	1860	NE.
Benton	Williams	1907	G.
	Emerton	1912	NE.

*Vaccinium Oxycoccus* L.

Franconia	Kennedy	1910	G.
	Fernald, Smiley	1915	NE.

1. Fernald 1923 Rhod. 25 p. 24.

2. " " " " p. 23.



Lincoln	Fuller	1885	NE.
Infield	Kennedy	1890	NE.
Lebanon	Edmundson	1908	N.
<i>Vaccinium macrocarpon</i> Ait.			
Warren	Williams	1903	N.
Plymouth	Fernald	1915	NE.

## Family DIAPENSIACEAE

## DIAPENSA L.

*Diapensia lapponica* L.

Franconia	Collins	1891	NE.
-----------	---------	------	-----

## ORDER PRIMULALES

## FAMILY PRIMULACEAE

## LYSIMACHIA (Tourn.) L. Loosestrife.

*Lysimachia quadrifolia* L.

Waverhill	Fernald	1917	NE.
Wentworth	Williams	1903	N.
Plymouth	Fernald	1915	NE.
Walderness	Hundersen, Lowenstein	1914	NE.
Hanover	Stewart	1908	N.
Lebanon	EFH	1920	NE.

*X. Lysimachia producta* (Gray) Fernald.

Woodstock	Fernald	1917	NE.
-----------	---------	------	-----

*Lysimachia terrestris* (L.) BSP.

Woodstock	Fernald	1915	NE.
	Boyle, Wilson	1925	NE.
Walderness	Hundersen, Lowenstein	1914	NE.





*Lysimachia Nummularia* L.

Warren	Williams	1913	U.
Olderberg	Rundgren, Lowenstein	1914	U.
	Hope	1916	U.
Hanover	Williams	1910	U.
Lebanon	Kennedy	1896	U.

*STEIRONEMA* Raf.*Steironema ciliatum* (L.) Raf.

Plymouth	Fernald	1915	U.
Lebanon	Kennedy	1896	U.

*FRONTALIS* L.*Frontalis borealis* Raf. (F. americana of Manual. #1.)

Lebanon	BPH	1920	U.
---------	-----	------	----

## ORDER GENTIANALES

## FAMILY GENTIANACEAE

*FRAXINUS* (Tournef.) L. Ash.*Fraxinus americana* L.

Waterville	Hope	1912	U.
Warren	Williams	1903	U.

*Fraxinus nigra* Marsh.

Ventworth	Williams	1910	U.
Lebanon	Kennedy, Jesup	1890	U.
	BPH	1920	U.

## FAMILY JUPITERACEAE



## GENTIANA (Tourn.) L.

*Gentiana crinita* Froel. Fringed Gentian.

Franconia	Kennedy	1910	1.
-----------	---------	------	----

Reported by Jesup(1.) from Lyme and Hanover, no specimens seen.

*Gentiana quinquefolia* L.

Lisbon	Hervey		11.
--------	--------	--	-----

Holderness	Faxon	1835, 1836	11.
------------	-------	------------	-----

Hanover Reported by Jesup(1.), no specimen seen.

Lebanon	Kennedy	1904	1.
---------	---------	------	----

	Haskins	1914	11.
--	---------	------	-----

*Gentiana clausa* Raf. 12.

Franconia	Barret	1821	1.
-----------	--------	------	----

	Ahler, Russell	1917	11., 1.
--	----------------	------	---------

Lisbon	Kennedy	1910	11.
--------	---------	------	-----

Rath	Pease	1926	11.
------	-------	------	-----

Plymouth	Knowlton	1915	11.
----------	----------	------	-----

Hanover	Williams	1910	1.
---------	----------	------	----

Lebanon	Kennedy	1900	1.
---------	---------	------	----

	Haskins	1914	11.
--	---------	------	-----

## MENYANTHUS (Tourn.) L. Jackbean.

*Menyanthes trifoliata* L., var. *minor* Michx. 13.

Hanover Reported by Jesup(1.), no specimens seen.

Hansen	Winslow	1910	11.
--------	---------	------	-----

1. Jesup 1891 Flora &amp; Fauna p. 23.

2. Fernald 1917 Rhod. 19 p. 147-9.

3. Fernald 1922 Rhod. 31 n. 125-3.



## FAMILY ASCLEPIACEAE

APOCYNACEAE (Tourn.) L. Dogbane.

*Apocynum androsaemifolium* L.

Holderness	Rundersen, Lowenstein	1914	ST.
------------	-----------------------	------	-----

*Apocynum cannabinum* L., var. *glaberrimum* DC. (L.)

Plymouth	Fernald	1915	ST.
----------	---------	------	-----

## FAMILY ASCLEPIACEAE

ASCLEPIAS (Tourn.) L. Milkweed.

*Asclepias incarnata* L.

Bath	Pease	1886	SE.
------	-------	------	-----

Hanover	Williams	1910	G.
---------	----------	------	----

*Asclepias incarnata* L., var. *pulchra* (Wrb.) Pers.

Infield	Kennedy	1890	G.
---------	---------	------	----

*Asclepias syriaca* L.

Woodstock	Fernald	1915	ST.
-----------	---------	------	-----

Hanover	Williams	1910	G.
---------	----------	------	----

*Asclepias physalacoides* Pursh.

Kentworth	Williams	1910	G.
-----------	----------	------	----

Lebanon	Williams	1910	G.
---------	----------	------	----

## ORDER POLYMONIALAE

## FAMILY HYDROPHYLLACEAE

HYDROPHYLLUM (Tourn.) L.

*Hydrophyllum virginianum* L.

Lebanon	Masking	1915	ST.
---------	---------	------	-----

	Hervey	1916	ST.
--	--------	------	-----





## FAMILY BORAGINACEAE

## CYNOGLOSSUM (Tourn.) L.

*Cynoglossum officinale* L.

Lebanon	Kennedy	1890	N.
---------	---------	------	----

*Cynoglossum boreale* Fernald.

Franconia	Faxon	1886, 1887	NE.
-----------	-------	------------	-----

Lebanon	Reported by Jesup(1.), no specimen seen.		
---------	--	--	--

## MACKELIA Johnston.

*Mackelia virginiana* (L.) Johnston. (*Lappula virginiana* of Manual. (2.)

Hanover	Rickard	1846	NE.
---------	---------	------	-----

Lebanon	Pease	1901	NE.
---------	-------	------	-----

## BORAGO L.

*Borago officinalis* L.

Lisbon	Brake		NE.
--------	-------	--	-----

## MYOSOTIS (Rupp.) L. Forget-me-not.

*Myosotis scorpioides* L.

Flymouth	Horner		NE.
----------	--------	--	-----

Lebanon	Haskins	1915	NE.
---------	---------	------	-----

*Myosotis laxa* Lehm.

Hanover	Reported by Jesup(3.), no specimen seen.		
---------	--	--	--

Genaan	Pease	1926	NE.
--------	-------	------	-----

*Myosotis arvensis* (L.) Mill.

Hanover	Reported by Jesup(3.), no specimen seen.		
---------	--	--	--

1. Jesup 1891 Flora & Fauna p. 23.

2. Johnston 1923 Cont. Gray Herb. 468 p. 45.

3. Jesup 1891 Flora & Fauna p. 29.



*ESCHIA* (Lam.) L.*Eschium vulgare* L.

Manover	Reported by Jesup (l.), no specimen seen.		
Lebanon	Pease	1900	EX.

## VERBENACEAE FAMILY

*VERBENA* (Tourne.) L.*Verbena angustifolia* Michx.

Manover	Jesup	1894	EX.
---------	-------	------	-----

*Verbena hastata* L.

Waldernose	Gundersen, Lowenstein	1914	EX.
Lebanon	Harvey	1916	EX.

## FAMILY LABIACEAE

*SCUTELLARIA* L. Skullcap.*Scutellaria lateriflora* L. Red-top Skullcap.

Manover	Loveland	1878	EX.
	Williams	1910	EX.

*Scutellaria scilloidifolia* Hamilton. (*S. palericulata* of Manual. [2.]

Tentworth	Williams	1908	EX.
Manover	Stewart	1908	EX.
	Williams	1910	EX.

## NEPETA L.

*Nepeta Cataria* L. Catnip.

Lebanon	Kennedy	1893	EX.
---------	---------	------	-----

1. Jesup 1891 Flora &amp; Fauna p. 29.

2. Fernald 1921 Rhod. 23 p. 85-86.



## PRUNELLA L.

*Prunella vulgaris* L. Heal-All.

Woodstock	Fernald	1915	NE.
Holderness	Gundersen, Lowenstein	1914	HL.

*Prunella vulgaris* L., var. *lanceolata* (Sarton.) Fernald. (1.)

Lincoln	Fernald	1913	—.
Woodstock	Fernald	1913	NE.
Waterville	Cushman	1912	SE.
Lebanon	Kennedy	1890	N.

## GALEOPSIS L. Hemp Nettle.

*Galeopsis Tetrahit* L.

Waterville	Hope	1912	HL.
Lebanon	Kennedy	1890	N.

*Galeopsis Tetrahit* L., var. *bifida* (Boenn.) Lejeune & Court. (2.)

Waterville	Hope	1912	HL.
------------	------	------	-----

## LEONURUS L. Motherwort.

*Leonurus Cardica* L.

Warren	Williams	1908	N.
Holderness	Gundersen, Lowenstein	1914	HL.
Lebanon	Kennedy	1893	NE.

## MONARDA L. Horse Mint.

*Monarda fistulosa* L., var. *rubra* Gray.

Holderness	Iverson	1891	—.
------------	---------	------	----

1. Fernald 1913 Rhod. 15 p. 133-134.

2. Fernald &amp; Wiegand 1910 Rhod. 12 p. 141.





*Hedeoma Pers.**Hedeoma pulegioides* (L.) Pers.

Haverhill	Fernald	1917	St.
Holderness	Sundersen, Lowenstein	1914	St.
Lebanon	Kennedy	1898	S.

*Lactuca* (Tourn.) L. *Levory.**Lactuca vulgaris* (L.) Fritsch.

Lebanon	Kennedy	1894	St.
	W.H.	1920	St.

*Prenanthes Michx.**Prenanthes flexuosum* (Walt.) Raf.

Campton	Mathews	1911	S.
Hanover	Williams	1910	S.

*Thymus* (Tourn.) L.*Thymus serpyllium* L.

Hanover	Chivers	1915	St.
---------	---------	------	-----

*Lycopus* (Tourn.) L.*Lycopus uniflorus* Michx.

Piermont	Williams	1908	S.
Farren	Knowlton	1923	St.
Plymouth	Knowlton	1923	St.

*Lycopus americanus* Wuhl.

Hanover	Williams	1910	S.
Winfield	Loveland	1893	St.



*Wentia* (Tourn.) L.

*Wentia spicata* L.

Holderness      Andersen, Lowenstein      1914      M.

*Wentia piperita* L.      Peppermint.

Barren      Williams      1912      M.

Holderness      Andersen, Lowenstein      1914      M.

*Wentia Cardiac* Berard.

Astikleson      St. John      1912      M.

Plymouth      Sargent, reported by Jesup (l.) as *Wentia* seen.

*Wentia arvensis* L.

Frankonia      Faxon      1907      M.

Wentworth      Williams      1910      M.

Plymouth      Sargent      1905      M.

Holderness      Andersen, Lowenstein      1914      M.

Manover      Loveland      1907      M.

*Wentia arvensis* L., var. *canadensis* (L.) Wisnet.

Wentworth      Williams      1910      M.

Manover      Williams      1910      M.

FAMILY ANACARDIACEAE

*Quercus* (Tourn.) L.      Nightshade.

*Quercus nigra* L.

Waverhill      Fernald      1917      M.

Lebanon      Kennedy      1904      M.

Pease      1900      M.

*Lycium* L.

*Lycium Hallsifolium* Mill.

Holderness      Andersen, Lowenstein      1914      M.



VERBENA (Tourn.) L.      Billele.

Verbena Thymus L.

Tappan	Williams	1908	5.
Holderness	Andersen, Lowenstein	1914	18.

Verbena Platensis L.

Lebanon	Kennedy	1890	4.
---------	---------	------	----

VERBENARIA (Tourn.) L.

Verbenaria lanceolata Pursh. (V. linearis of Manual. 41.)

Livermore	Pease	1913	18.
Lincoln	Fernald	1915	18.
Woodstock	Fernald	1915	18.
Tappan	Williams	1907	5.
Lebanon	W.H.	1920	18.

PENTSTEMON (Mitchell.) Nutt.

Pentstemon hispidus (L.) Willd.

Lebanon	Pease	1907	18.
---------	-------	------	-----

Pentstemon latiflorus Nutt.

Lebanon	Mathews	1905	5.
---------	---------	------	----

Pentstemon virgatus Nutt. (P. laevigatus of Manual. 42.)

Lincoln	Fernald	1915	18.
Lebanon	Mathews	1905	5.

CHELONE (Tourn.) L.

Chelone glabra L.

Waterville	Dushman	1913	18.
------------	---------	------	-----

1. Pennell 1922 Torreya 22 p. 81.

2. Britton & Brown 1913 Ill. Flora 2nd ed. 3 p. 184.





Holderness	Henderson, Lowenstein	1914	..
Manover	Lowland	1877	..

*Mimulus l.* Monkey Flower.

*Mimulus rimbens l.*

Deerhill	Hesselt, Venson	1903	..
Centworth	Williams	1903	..
Manover	Williams	1910	..
Holderness	Henderson, Lowenstein	1914	..

*Mimulus l.*

*Oratiola aurea Muhl.*

Holderness	Henderson, Lowenstein	1914	..
------------	-----------------------	------	----

*VERONICA (Lam.) L.*

*Veronica verticilla l.* (*V. longifolia* of Cassi. l.)

Piermont	Williams	1910	..
----------	----------	------	----

*Veronica americana Schwin.*

Bethlehem	Flint	1871	..
-----------	-------	------	----

*Veronica scutellata l.*

Holderness	Henderson, Lowenstein	1914	..
------------	-----------------------	------	----

*Veronica chamaedrys l.*

Lisbon	Hemady	1912	..
--------	--------	------	----

*Veronica campylofolia l.*

Francis	W. Scott	1895	..
Barren	Williams	1910	..
Manover	Williams	1910	..



*Veronica arvensis* L.

Lebanon	1898	1898	—
---------	------	------	---

*VERONICA* (Plumier.) L.

*Gerardia virginica* (L.) Torr.

Plymouth	1898	1918	—
----------	------	------	---

*Gerardia tenuifolia* Schi.

Bridgewater	1898	1898	—
-------------	------	------	---

*GERARDIA* (Tourn.) L.

*Helianthus divaricatus* L.

Waverhill	1898	1898	—
-----------	------	------	---

Waverhill	Williams	1918	—
-----------	----------	------	---

*HELIANTHUS* (Tourn.) L. Loosewort.

*Pedicularis canadensis* L.

Waverhill	1898	1917	—
-----------	------	------	---

Waverhill	Williams	1918	—
-----------	----------	------	---

Waverhill	1898	1918	—
-----------	------	------	---

Lebanon	1898	1900	—
---------	------	------	---

FAMILY *VERONICACEAE*

*VERONICA* L. Bladderwort.

*Utricularia vulgaris* L., var. *americana* Sweet.

Waverhill	1898	1917	—
-----------	------	------	---

Waverhill	Williams	1918	—
-----------	----------	------	---

*Utricularia gibba* L.

Lebanon	1898	1918	—
---------	------	------	---



*Utricularia intermedia* Heyne.

Holderness	E. Paxton	1886	5.
------------	-----------	------	----

Canaan	Reported by Jesup(1.), no specimen seen.		
--------	--	--	--

*Utricularia racemata* E.L. Greene.

Sentworth	Williams	1895	5.
-----------	----------	------	----

*Utricularia cornuta* Michx.

Lincoln	Kennedy	1891	5.
---------	---------	------	----

Sentworth	Williams	1895	5.
-----------	----------	------	----

Canaan	Reported by Jesup(1.), no specimen seen.		
--------	--	--	--

## FAMILY ORCHIDACEAE

FAMILY Mutt. Beech-Liana.			
---------------------------	--	--	--

*Epipogon virginiana* (L.) Mart.

Frankonia	Wetzel	1917	5.
-----------	--------	------	----

Lisbon	Paxon	1899	5.
--------	-------	------	----

Totterville	Hone	1911	5.
-------------	------	------	----

	Burman	1912	5.
--	--------	------	----

Holderness	Hansen, Lowenstam	1914	5.
------------	-------------------	------	----

Canover	Reported by Jesup(1.), no specimen seen.		
---------	--	--	--

Lebanon	Kennedy	1897	5.
---------	---------	------	----

FAMILY (L.) Vallr. Squaw-Root.			
--------------------------------	--	--	--

*Onoclea americana* (L.) Vallr.

Holderness	Evanson	1921	5.
------------	---------	------	----

FAMILY (L.) L. Horn-Tree.			
---------------------------	--	--	--

*Orchancha uniflora* L.

Holderness	Hansen, Lowenstam	1914	5.
------------	-------------------	------	----

Bridgewater	Pease	1897	5.
-------------	-------	------	----





## FAMILY PORTULACACEAE

## PORTULA L. - Purslane.

## Portula Perfoliata L.

Plymouth	Fernald	1911	6.
Denver	Williams	1910	6.
Lebanon	Kennedy	1890	6.

## FAMILY PORTULACACEAE

## FAMILY PORTULACACEAE

## Plantago (Rors.) L. - Plantain.

## Plantago major L.

Carton	Williams	1900	6.
--------	----------	------	----

## Plantago Virginica L.

Carton	Williams	1900	6.
Lebanon	Jessup, Kennedy	1890	6.

## FAMILY RUBIACEAE

## FAMILY RUBIACEAE

## Galium L. - Bedstraw.

## Galium angustifolium Willd.

Franconia	Fernald, Smiley	1911	6.
	Russell		6.

## Galium lentiginosum Torr.

Denver	French, reported by Jessup (l.), no specimen seen.		
Lebanon	JT	1890	6.

Fl. Jessup 1891 Flora & Fauna N. D.



*Galium boreale* L., var. *intermedium* DC. (1.)

Holderness	Undersen, Lowenstein	1914	SE.
------------	----------------------	------	-----

*Galium mollugo* L.

Haverhill	Williams	1915	SE.
-----------	----------	------	-----

*Galium palustre* L.

Lebanon	WPH	1920	SE.
---------	-----	------	-----

*Galium Graytoni* Michx.

Woodstock	Fernald	1915	SE.
-----------	---------	------	-----

Lincoln	Fernald	1915	SE.
---------	---------	------	-----

Thornton	Pease	1925	SE.
----------	-------	------	-----

*Galium asperellum* Michx.

Farron	Williams	1908	E.
--------	----------	------	----

Lebanon	WPH	1921	SE.
---------	-----	------	-----

*Galium triflorum* Michx.

Thornton	Pease	1925	SE.
----------	-------	------	-----

Waterville	Cushman	1912	SE.
------------	---------	------	-----

Farron	Williams	1908	E.
--------	----------	------	----

Holderness	Undersen, Lowenstein	1914	SE.
------------	----------------------	------	-----

*MITCHELLIA* L. var. *viridula* Perry.*Mitchella repens* L.

Holderness	Undersen, Lowenstein	1914	SE.
------------	----------------------	------	-----

	Fernald	1915	SE.
--	---------	------	-----

Manover	Stewart	1928	E.
---------	---------	------	----

Lebanon	Fernald, Hunnswell	1920	SE.
---------	--------------------	------	-----

*CEPHALANTHUS* L. Buttonbush.*Cephalanthus occidentalis* L.

Bentworth	Williams	1910	E.
-----------	----------	------	----

Reported from Canaan and Plymouth by Jesup (2.), no specimens seen.

1. Fernald 1928 Rhod. 30 p.106-107.

2. Jesup 1891 Flora & Fauna p. 20.



## HOUSTONIA L.

*Houstonia coccinea* L. Bluet.

Hoodstock	Fernald	1915	80.
Lebanon	Kennedy	1917	8.
	WPA	1920	81.

## FAMILY CAMPIDOLIACEAE

LISERVILLA (Tourn.) Mill. Bush Honeysuckle.

*Liservilla lonigera* Mill.

Waterville	Cushman	1913	82.
Halderness	Rundeen, Lowenstein	1914	83.
Enfield	Knowlton	1925	84.
Lebanon	WPA	1920	85.

## LONICERA L. Honeysuckle

*Lonicera villosa* (Michx.) A. N. S. (*L. caerulea*, var. *villosa* of Manual. (1.)

Hanover	Haskins	1915	86.
---------	---------	------	-----

Reported from Canaan &amp; Enfield by Jessup (2.), no specimens seen.

*Lonicera villosa* (Michx.) A. N. S., var. *holonis* (Léon.) Fernald. (1.)

Franconia	Fernald	1915	87.
-----------	---------	------	-----

*Lonicera villosa* (Michx.) A. N. S., var. *tomentosa* Fernald. (1.)

Franconia	Fernald, Bailey	1915	88.
-----------	-----------------	------	-----

*Lonicera tatarica* L.

Hanover	Whitney	1932	89.
---------	---------	------	-----

*Lonicera canadensis* Marsh.

Franconia	Wm. Boott	1885	90.
	Faxon	1889, 1895	91.

1. Fernald 1925 Rhod. 27 p. 1.

2. Jessup 1891 Flora &amp; Fauna p. 19.





Holderness	Botany 7	1915	NE.
Hanover	Boore	1908	NE.
Lebanon	Kennedy	1892, 1896	NE, N.
<i>Lonicera dioica</i> L.			
Path	Fernald	1917	NE.
Hanover	Williams	1910	N.
Lebanon	Kennedy	1896	N.

*LIPTATA* (Ronov.) G. Twin-flower.

*Linnaea borealis* L., var. *americana* (Forbes) Rehder.

Franconia	Glosson	1889	NE.
	Russell		N.
Waterville	Cushman	1912	NE.
Lebanon	Haskins	1915	NE.
	W. H.	1920	NE.

*VIBURNUM* (Tourn.) G.

*Viburnum alnifolium* Marsh.

Franconia	Faxon	1894, 1892	N., NE.
Lincoln	Faxon	1894	N.
	Kennedy	1888	NE.
	Wm. Bott	1855	N.
Waterville	Cushman	1912	NE.
Holderness	Undersen, Lowenstein	1914	NE.
Hanover	Rickard	1916	NE.
	Haskins	1915	NE.
Infield	Kennedy	1892	NE.
Lebanon	Haskins	1915	NE.
	W. H.	1920	NE.



*Viburnum Opulus* L., var. *Americanum* (Mill.) Wit. High-bush Cranberry.

Franconia	Wm. Boott	1855	G.
	Hope	1915	NE.
Infield	Kennedy	1896	G.

Reported by Jesup (fl.), from Hanover and Lebanon, no specimens seen.

*Viburnum pauciflorum* Raf.

Franconia	Taxon	1896	NE.
	Waller	1890	NE.
	Fernald, Bailey	1915	NE.
Benton	Williams	1908	G.

*Viburnum acerifolium* L.

Plymouth	Fernald	1915	NE.
Lebanon	Haskins	1915	NE.
	W.H.	1920	NE.

*Viburnum cassinoides* L.

Franconia	Wm. Boott	1855	NE.
	Hoar	1858	NE.
	Taxon	1890	G.
	Williams	1908	NE.
	Russell		G.
Lincoln	Collins, Kennedy	1891	G., NE.
Benton	Williams	1907	G.
Hanover	Reported by Jesup (fl.), no specimen seen.		
Lebanon	Kennedy	1890	NE.
	Wheleston	1899	G.



## SAMBUCUS (Tourn.) L. Elder.

## Sambucus racemosa L.

Franconia	Saxon	1889, 1892	Fl., S.
-----------	-------	------------	---------

Lincoln	Kennedy	1888, 1890	Fl., S.
---------	---------	------------	---------

## ORDER CAMPANULACEAE

## FAMILY UMBELLIFERAE

## SICYO L.

## Sicyos angulatus L.

Hanover	Williams	1910	S.
---------	----------	------	----

## FAMILY CAMPANULACEAE

## CAMPANULA (Tourn.) L.

## Campanula rotundifolia L. Bluebell

Hanover	Willard	1874	Fl.
---------	---------	------	-----

Lebanon	Kennedy	1885	S.
---------	---------	------	----

	SVN	1890	Fl.
--	-----	------	-----

## Campanula aparinoides Pursh.

Golderness	Andersen, Lowenstein	1914	Fl.
------------	----------------------	------	-----

## FAMILY LOBELIACEAE

## LOBELIA (Flumier.) L.

## Lobelia cardinalis L.

Wentworth	Williams	1898	S.
-----------	----------	------	----

Canaan	Winslow	1913	Fl.
--------	---------	------	-----

Reported by Jessup (l.) from Hanover & Lebanon, no specimens seen.





*Lobelia spicata* Lam.

Franconia	Williams	1908	L.
Hanover	Williams	1910	L.

*Lobelia inflata* L.

Franconia	Russell	1917	L.
Holdstock	Fernald	1915	Fl.
Waterville	Cushman	1912	Fl.
Warren	Williams	1908	L.
Holderness	Henderson, Lowenstein	1914	Fl.
Lebanon	Kennedy	1903, 1905	L., Fl.

*Lobelia Dortmunda* L.

Franconia	Ahler, Russell	1917	Fl.
Lincoln	Flexon	1934	.
Leicester	Williams	1903	G.
Canaan	Reported by Jesup (#1.), no specimen seen.		

## FAMILY COMPOSITAE

*Eupatorium* (Tourn.) L. Thoroughwort.*Eupatorium maculatum* L. (*E. purpureum* L., var. *maculatum* DC. (Rafin.)) (#2.)

Plymouth	Knowlton	1925	Fl.
----------	----------	------	-----

*Eupatorium falcatum* Michx.

Holderness	Henderson, Lowenstein	1914	Fl.
------------	-----------------------	------	-----

*Eupatorium urticifolium* Reichard.

Waterville	Cushman	1912	Fl.
Hanover	Rickard	1946	Fl.

#1. Jesup 1891 *Flora & Fauna* p. 25.#2. Mackenzie 1920 *Rhod.* 22 p. 57.



## SOLIDAGO L. Golden-Rod.

*Solidago squarrosa* Muhl.

Franconia	E. Faxon	1894	AL.
	Williams	1903	AL.
Lebanon	Faxon	1897	AL.
Woodstock	Fernald	1915	AL.

*Solidago caesia* L.

Waterville	Cushman	1912	AL.
Plymouth	Fernald	1915	AL.
Lebanon	Kennedy	1895	AL.

*Solidago caesia* W. L. juncea

Haverhill	Fernald	1917	AL.
-----------	---------	------	-----

*Solidago caesia* W. L. var. rosea

Haverhill	Fernald	1917	AL.
-----------	---------	------	-----

*Solidago latifolia* L.

Waterville	Cushman	1912	AL.
Lebanon	Kennedy	1836, 1831	AL., L.
	BPH	1920	AL.

*Solidago bicolor* L.

Woodstock	Williams	1903	AL.
	Fernald	1915	AL.
Warren	Williams	1903	AL.
Plymouth	Knowlton	1917	AL.
Holderness	Hundersen, Lowenstein	1914	AL.
Lebanon	Kennedy	1895	AL.

*Solidago macrophylla* Pursh.

Franconia	Williams	1904	AL.
Holderness	Hundersen, Lowenstein	1914	AL.



*Holidago macrophylla* Pursh., var. *thursaxioides* (Nev.) Fernald.

Benton	Aggleston	1899	1.
	Williams	1917	1.

*Holidago Nuttallii* Fernald.

Franconia	Taxon	1909	1.
	Fernald, Smiley	1915	1.

Benton Flint, reported by Jesup(1.), no specimen seen.

*Holidago Sandii* (Porter) Britton.

Franconia	Taxon	1909	1.
	Fernald, Jackson	1915	1.

*Holidago Sandii* (Porter) Britton, var. *monticola* (Porter) Fernald.

Franconia	Terry	1917	1.
-----------	-------	------	----

*Holidago racemosa* Greene.

Bath	Fernald	1917	1.
------	---------	------	----

*Holidago racemosa* Greene, forma *leucantha* Fernald. 12.

Bath	Fernald	1917	
------	---------	------	--

*Holidago uliginosa* Nutt.

Bethlehem	Taxon	1877	1.
Lisbon	Taxon	1891	1.

Reported by Jesup(1.) from Canada & Newover, no specimen seen.

*Holidago arvensis* Nutt.

Franconia	Williams	1904	1.
Lincoln	Fernald	1915	1.
Woodstock	Fernald	1915	1.
Waterville	Cushman	1912	1.
	Weatherby	1915	1.
Benton	Knollton	1925	1.

1. Jesup 1891 Flora & Fauna p. 20.

2. Fernald 1918 Rhod. 20 p.172.





*Solidago fumosa* Ait.

Woodstock	Fernald	1910	25.
Plymouth	Knowlton	1917	25.
Lebanon	Kennedy	1894	25.

*Solidago mollisulata* (N.) Porter.

Lisbon	Taxon	1931	25.
Lincoln	Taxon	1934	25.

*Solidago rugosa* Mill.

Waterville	Cashman	1915	25.
Plymouth	Knowlton	1915	25.

*Solidago rugosa* Mill., var. *villosa* (Pursh.) Fernald.

Woodstock	Fernald	1915	25.
Lebanon	Kennedy	1894	25.

*Solidago nemoralis* Ait.

Sentworth	Williams	1903	25.
Warren	Williams	1903	25.
Plymouth	Knowlton	1923	25.
Lebanon	Kennedy	1894	25.

*Solidago canadensis* L.

Francisville	Williams	1898	25.
Sentworth	Williams	1903	25.
Warren	Williams	1903	25.
Plymouth	Knowlton	1915	25.
Lebanon	Kennedy	1894	25.

*Solidago altissima* L.

Severhill	Fernald	1917	25.
-----------	---------	------	-----

*Solidago serotina* Ait.

Woodville	Williams	1903	25.
Plymouth	Knowlton	1917	25.
Lebanon	Kennedy	1894	25.



*Solidago graminifolia* (L.) Walish.

Lebanon	Kennedy	1920	1.
---------	---------	------	----

*Solidago graminifolia* (L.) Walish., var. *Battellii* (Greene) Fernald.

Franconia	Williams	1906	1.
-----------	----------	------	----

## ASTER (Lour.) R.

*Aster divaricatus* L.

Lebanon	Kennedy	1921	1.
---------	---------	------	----

*Aster Behrederi* Nees.

Lebanon	Kennedy	1924	3.
---------	---------	------	----

*Aster macrophyllus* L.

Franconia	Kennedy	1910	1.
Katerville	Cushman, Hope	1912	1., 2.
Leighton	Knowlton	1925	1.
Lisbon	L. Faxon	1883	1.
Plymouth	Knowlton	1917	1.
Lebanon	Kennedy	1921	1.

*Aster macrophyllus* L., var. *velutinus* Purgees.

Woodstock	Fernald	1915	1.
Katerville	Weatherby	1915	1.

*Aster macrophyllus* L., var. *sejunctus* Purgees.

Katerville	Cushman	1912	1.
------------	---------	------	----

*Aster radula* Ait.

Wethersham	L. Faxon	1877	1.
Woodstock	Fernald	1915	1.

*Aster radula* Ait., var. *strictus* (Marsh.) Gray.

Wethersham	Uske		1.
------------	------	--	----

*Aster undulatus* L.

Lisbon	L. Faxon	1883	1., 2.
Lebanon	Kennedy	1924	1.



*Aster cordifolius* L.

Franconia	Kennedy	1913	98.
Waterville	Cushman	1912	97.
Plymouth	Howlton	1915	98.

*Aster cordifolius* L., var. *calvocephalus* Porter.

Littleton	Faxon	1893	9.
-----------	-------	------	----

*Aster Lindleyanus* L. & G.

Franconia	E. Faxon 1887, 1888, 1889, 1895, 1896	98.
Lisbon	E. Faxon 1894, 1897	98.
Littleton	E. Faxon 1893	98.

*Aster Lindleyanus* L. & G., var. *comatus* Fernald.

Lisbon	Faxon 1893, 1897	9.
--------	------------------	----

*Aster lateriflorus* (L.) Britton, var. *angustifolium* Wiegand. 1.

Waldstock	Fuller	1899	98.
Plymouth	Howlton	1891	98.

*Aster lateriflorus* (L.) Britton, var. *hirticaulis* (Lindl.) Porter.

Waterville	Cushman	1912	98.
------------	---------	------	-----

*Aster Tradescanti* L.

Franconia	Faxon	1876	98.
-----------	-------	------	-----

*Aster paniculatus* Lam.

Franconia	Faxon	1887	98.
Plymouth	Howlton	1915	98.
Lebanon	Kennedy	1890	98.

*Aster paniculatus* Lam., var. *bellidiflorus* (Willd.) Fernald.

Lisbon	E. Faxon	1896	98.
Franconia	Faxon	1887	9.
Waldstock	Faxon	1899	98.





*Aster longifolius* Lam.

Bethlehem	Faxon	1888, 1890	H.
Lisbon	Faxon	1890, 1892, 1896	NE.
Franconia	Faxon	1887, 1890, 1892, 1897	NE.

*Aster longifolius* Lam., var. *villicaulis* Gray.

Lisbon	Faxon	1888	G.
Franconia	Faxon	1888, 1890	G., H.

*Aster novi-belgii* L.

Bethlehem	Faxon	1890	G.
Franconia	Faxon	1887, 1890	G.
	Connely	1910	NE.
Warren	Willard	1888	G.
Plymouth	Knobleton	1916	NE.
Wilton	Faxon	1888	G.

*Aster polyneurus* Lindl. fl.

Woodstock	Fernald	1904	NE.
Bath	Fernald	1917	NE.
Plymouth	Fernald	1910	NE.

*Aster tardiflorus* L.

Littleton	Faxon	1888	G.
Bethlehem	F. Faxon	1888, 1896	G.
Lisbon	Faxon	1887, 1889, 1892, 1897	NE., G., NE.
Franconia	Faxon	1887, 1892, 1896	NE., G.

*Aster tardiflorus* L., var. *vestitus* Fernald.

Bethlehem	F. Faxon	1888	NE.
Franconia	F. Faxon	1889, 1890	NE.



*Aster paniculatus* L.

Franconia	Faxon	1888, 1889, 1892	N.
Waterville	Cushman	1912	NE.
Lebanon	Kennedy	1894	N.

*Aster paniculatus* L., var. *virgatus* (Poeb.) Nutt.

Franconia	Faxon	1910	N.
-----------	-------	------	----

*Aster paniculatus* L., var. *semisus* Lindl.

Franconia	Faxon	1892	N.
-----------	-------	------	----

*Aster umbellatus* Mill.

Stockstock	Fernald	1915	NE.
Plymouth	Knowlton	1915	NE.
Holderness	Mundersen, Lowenstein	1914	NE.

*Aster linearifolius* L.

Patch	Fernald	1917	NE.
Haverhill	Fernald	1917	NE.
Lebanon	Williams	1925	N.

*Aster acuminatus* Michx.

Littleton	Lowell	1845	NE.
Franconia	Williams	1894	NE.
	Fernald	1915	NE.
	Russell	1917	G.
Stockstock	Fernald	1915	NE.
Plymouth	Knowlton	1917	NE.
Waterville	Willie	1877	G.
	Cushman	1912	NE.
Hanover	Pickard	1846	NE.
	Williams	1913	G.

*Aster nemoralis* Ait.

Bethlehem	Dakes	1850	NE.
	E. Faxon	1877	G.



Kathlehen	Simms	1888	12.
Carman	Williams	1912	10.
Infield	Kennedy	1893	10.
<i>Aster nemoralis</i> Lit., var. <i>Elaezi</i> Wotter.			
Kathlehen	Faxon, Pringle	1877	4., 28.

*ERIGERON* L. Fleabane.

*Erigeron philadelphicus* Michx.

Woodstock	Fernald	1915	12.
Warren	Williams	1917	G.
Manchester	Johnson	1908	12.
Lebanon	Kennedy	1896	G.

*Erigeron philadelphicus* L.

Woodstock	Fernald	1915	12.
Warren	Williams	1910	1.
Lyme	Flint	1871	12.
Manchester	Stewart	1883	1.
	Williams	1910	1.
Lebanon	1891	1900	12.

*Erigeron ramosus* (Walt.) DC.

Woodstock	Fernald	1915	12.
-----------	---------	------	-----

*Erigeron ramosus* (Walt.) DC., var. *septrionalis* Fernald & Wiegand. 1.

Franconia	Faxon	1896	12.
Lincoln	Fernald	1915	12.
Woodstock	Fernald	1915	12.
Plymouth	Fernald	1915	12.
Lebanon	Kennedy	1896	12.

*Erigeron canadensis* L.

Faverhill	Fernald	1917	12.
Warren	Williams	1913	12.





*Antennaria* Gaertn.*Antennaria Perlinii* Fernald.

Haverhill	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.
Holderness	Fernald	1915	NE.

*Antennaria canadensis* Greene.

Franconia	Faxon	1897, 1898	N., N.E.
Woodstock	Fernald	1915	NE.
Holderness	Fernald	1915	NE.
Lebanon	W.H.	1920	NE.

*Antennaria plantaginifolia* (L.) Richards.

Holderness	Fernald	1915	NE.
Lebanon	W.H.	1920	NE.

*Antennaria fallax* Greene.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

*Antennaria occidentalis* Greene.

Bath	Fernald	1917	NE.
Plymouth	Fernald	1915	NE.
Ashland	Fernald	1916	NE.

*Antennaria Brainerdii* Fernald.

Holderness	Fernald	1915	NE.
------------	---------	------	-----

*Antennaria neodioica* Greene.

Franconia	E. Faxon	1897	N.
Lincoln	Fernald	1915	NE.
Haverhill	Fernald	1917	NE.
Lebanon	W.H.	1920	NE.

*Antennaria neodioica* Greene., var. *attenuata* Fernald. #1.

Franconia	E. Faxon	1897	NE.
Woodstock	Fernald	1915	NE.



Halderness	Fernald	1918	III.
Lahland	Fernald	1916	III.
<i>Antennaria mollis</i> Greene, var. <i>chloranthella</i> Fernald. #1.			
Franconia	L. Faxon	1887	I.
<i>Antennaria neglecta</i> Greene.			
Lichen	Faxon	1888	I.
Franconia	Faxon	1887, 1890	II., III.
Yukon	Fernald	1915	III.
Plymouth	Fernald	1915	III.
Halderness	Fernald	1915	III.
Lahland	Fernald	1916	III.
Lahland	III.	1920	III.
<i>Antennaria petaloides</i> Fernald.			
Franconia	L. Faxon	1887	I.
Plymouth	Fernald	1915	III.
Yukon	Fernald	1915	III.
Lahland	Fernald	1916	III.
Lahland	III.	1920	III.

#### ANAPHALIS DC. Everlasting.

*Anaphalis margaritacea* (L.) DC. Nearly Everlasting.

Franconia	Russell	1917	II.
Halderness	Bunderson, Lowenstein	1915	III.
Lahland	Winters	1920	I.
<i>Anaphalis margaritacea</i> (L.) DC., var. <i>occidentalis</i> Greene.			
Yukon	Fernald	1915	III.



## GNAPHALION L.    Gnidweed

*Gnaphalium obtusifolium* L. (*G. polycephalum* of Manual. #1.)

Plymouth	Knowlton	1917	ff.
----------	----------	------	-----

*Gnaphalium decurrens* Ives.

Lisbon	Kennedy	1910	g.
--------	---------	------	----

Farren	Williams	1910	g.
--------	----------	------	----

Hanover	Hickard	1946	ff.
---------	---------	------	-----

Lebanon	Kennedy	1894	ff.
---------	---------	------	-----

*Gnaphalium uliginosum* L.

Molderness	Gundersen, Lowenstein	1914	ff.
------------	-----------------------	------	-----

INULA L.    <sup>c</sup>Elecampane.*Inula Helenium* L.

Thornton	Tere	1905	ff.
----------	------	------	-----

Farren	Williams	1910	g.
--------	----------	------	----

Molderness	Gundersen, Lowenstein	1914	ff.
------------	-----------------------	------	-----

Hanover	Williams	1910	g.
---------	----------	------	----

Lebanon	Pease	1900	ff.
---------	-------	------	-----

## RUDBECKIA L.    Cone-Flower.

*Rudbeckia hirta* L.

Molderness	Henshaw	1892	g.
------------	---------	------	----

	Gundersen, Lowenstein	1914	ff.
--	-----------------------	------	-----

*Rudbeckia laciniata* L.

Haverhill	Kennedy	1890	g.
-----------	---------	------	----

Hanover	Hickard	1946	ff.
---------	---------	------	-----

Lebanon	Kennedy	1891	g.
---------	---------	------	----





*HELIANTHUS* L. Sunflower.*Helianthus annuus* L.

Warren	Williams	1903	S.
--------	----------	------	----

*Helianthus strumosus* L.

Plymouth	Knowlton	1915	NE.
----------	----------	------	-----

*Helianthus decapetelus* L.

Littleton	Lowell	1845	W.
-----------	--------	------	----

Franconia	Faxon	1894, 1897	W., S.
-----------	-------	------------	--------

Thornton	Pease	1873	W.
----------	-------	------	----

Wentworth	Williams	1903	S.
-----------	----------	------	----

*Helianthus tuberosus* L.

Warren	Williams	1910	S.
--------	----------	------	----

Lebanon	Kennedy	1834	S.
---------	---------	------	----

*BIDENS* L. Star Marigold.*Bidens frondosa* L.

Lincoln	Williams	1903	S.
---------	----------	------	----

Warren	Williams	1903	S.
--------	----------	------	----

Plymouth	Knowlton	1917, 1921	NE.
----------	----------	------------	-----

*Bidens cernua* L.

Manover		1839	S.
---------	--	------	----

*Bidens cernua* L., var. *elliptica* Wiegand. fl.

Bethlehem	Faxon	1883	W.
-----------	-------	------	----

Plymouth	Knowlton	1917	W.
----------	----------	------	----

Lebanon	Kennedy	1830	S.
---------	---------	------	----



## ACHILLEA (Vaill.) L. Tarrow.

## Achillea Ptarmica L.

Lebanon	Kennedy	1907	1.
---------	---------	------	----

## Achillea Millefolium L.

Bath	Pease	1926	25.
------	-------	------	-----

Lebanon	Kennedy	1898	2.
---------	---------	------	----

## CHRYSAETHRUM (Tourn.) L. Ox-eye Daisy.

## Chrysanthemum Ealeamite L., var. tenacetoides Boiss.

Warren	Williams	1915	25.
--------	----------	------	-----

## TANACETUM L. Tansy.

## Tanacetum vulgare L., var. crisum DC.

Piermont	Williams	1910	2.
----------	----------	------	----

## ARTEMISIA L. Wormwood.

## Artemisia biennis Willd.

Woodville	Williams	1908	2.
-----------	----------	------	----

## Artemisia Absinthium L. Wormwood.

Warren	Williams	1910	21.
--------	----------	------	-----

Hanover	Williams	1910	2.
---------	----------	------	----

Winfield	Reported by Jessup 1. ♀, no specimen seen.		
----------	--	--	--

## TUSSILAGO (Tourn.) L. Coltsfoot.

## Tussilago Farfara L.

Franconia	E. Faxon	1887	2.
-----------	----------	------	----



Holderness	Sundersen, Lowenstein	1914	Wt.
Hanover	Hitchcock	1833	G.
Lebanon	Kennedy	1890	Wt.
	Fernald, Munnewell	1920	Wt.

#### ARFVICA L.

*Arnica mollis* Hook., var. *petiolaris* Fernald.

Warren	Williams	1898	G.
--------	----------	------	----

#### ARTEMISIO (Tourne.) R. Lagwort.

*Senecio aureus* L.

Lebanon	Tinslow	1918	Wt.
---------	---------	------	-----

*Senecio Robbinsii* Jakes.

Bethlehem	T. Faxon	1875	G.
Frederonia	Faxon	1895	Wt.
Woodstock	Fernald	1915	Wt.
Benton	Williams	1917	G.
Holderness	Sundersen, Lowenstein	1914	Wt.
	Fernald	1915	Wt.
Infield	Knobleton	1925	Wt.

*Senecio paucerculus* Michx., var. *Balsamites* (Nuhl.) Fernald.

(*S. Balsamites* of Manual. Pl.)

Bath	Fernald	1917	Wt.
	Pease	1906	Wt.

#### ARCTIUM L. Burdock.

*Arctium Lappa* L.

Warren	Williams	1908	G.
Hanover	Williams	1910	G.





*Arctium minus* Bernh.

Holderness	Sundersen, Lowenstein	1914	75.
------------	-----------------------	------	-----

*CIRSIIUM* (Tourn.) Hill. Common Thistle.

*Cirsium lanceolatum* (L.) Hill. Bull Thistle.

Warren	Williams	1923	6.
--------	----------	------	----

*Cirsium discolor* (Muhl.) Bereng.

Beverhill	Fernald	1917	75.
-----------	---------	------	-----

*Cirsium pumilum* (Witt.) Bereng.

Beverhill	Fernald	1917	75.
-----------	---------	------	-----

Woodstock	Fernald	1915	75.
-----------	---------	------	-----

Warren	Williams	1923	6.
--------	----------	------	----

*Cirsium arvense* (L.) Scop.

Lebanon	Kennedy	1920	7.
---------	---------	------	----

*CELESTINEA* L. Star Thistle.

*Centaurea Cyanus* L. Bachelor's Button.

Hanover	Williams	1910	6.
---------	----------	------	----

*OXICORDIUM* (Tourn.) L. Chicory.

*Oxichorium Intybus* L.

Holderness	Sundersen, Lowenstein	1914	75.
------------	-----------------------	------	-----

Hanover	Reported by Jesup (#1.), no specimen seen.		
---------	--	--	--

*ERIGIA* Schreb. Dwarf Dandelion.

*Erigia virginica* (L.) Willd.

Hanover	Reported by Jesup (#1.), no specimen seen.		
---------	--	--	--

Lebanon	SPH	1920	75.
---------	-----	------	-----



*TARAXACUM* (Haller.) Ludwig.    Cow Thistle.

*Taraxacum officinale* Weber.

Holderness	Gundersen, Lowenstein	1914	11.
	Fernald	1915	11.
Lebanon	Kennedy	1917	1.

*Taraxacum erythrospermum* Andrz.

Holderness	Fernald	1915	11.
------------	---------	------	-----

*LEONURUS* (Tourn.) L.    Cow Thistle.

*Leonurus arvensis* L.

Bethlehem	St. John	1912	11.
Woodstock	Williams	1908	1.

*Leonurus oleraceus* L.

Hanover	Williams	1910	1.
---------	----------	------	----

*Leonurus asper* (L.) Hill.

Warren	Williams	1908	1.
--------	----------	------	----

*Leonurus asper* (L.) Hill., forma *inermis* (Dischoff.) G. Beck. #1.

Hanover	Williams	1910	1.
---------	----------	------	----

*LACTUCA* (Tourn.) L.    Lettuce.

*Lactuca scariola* L., var. *integrata* Bren. & Wodr.

Warren	Williams	1908	1.
--------	----------	------	----

*Lactuca canadensis* L.

Woodstock	Fernald	1915	11.
Warren	Williams	1908	11.

*Lactuca canadensis* L., forma *angustipes* Wiegand. #2.

Woodstock	Fernald	1915	11.
-----------	---------	------	-----

#1. Beck 1893 Flora Nieder-Oesterreich 2 p.1322.

#2. Wiegand 1920 Rhod. 22 p. 11.



*Lactuca canadensis* L., var. *intertrifolia* (Sigel.) Gray. (*L. sagittifolia*  
of Manual. #1.)

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Warren	Williams	1908	G.
--------	----------	------	----

*Lactuca canadensis* L., var. *obovata* Wiegand., forma *stenopoda* Wiegand. #1.

Warren	Williams	1908	G.
--------	----------	------	----

*Lactuca hirsuta* L.

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Plymouth	Fernald	1915	NE.
----------	---------	------	-----

Hanover	Williams	1910	G.
---------	----------	------	----

Lebanon	Kennedy	1893	G.
---------	---------	------	----

*Lactuca spicata* (Lam.) Hitch.

Plymouth	Knowlton	1915	NE.
----------	----------	------	-----

Lebanon	Kennedy	1891	G.
---------	---------	------	----

**PRENANTHES** (Vaill.) L. Rattlesnake-Root.

*Prenanthes nana* (Sigel.) Torr.

Franconia	Fernald	1915	NE.
-----------	---------	------	-----

*Prenanthes Boottii* (DC.) Gray.

Franconia	Fernald, Bailey	1915	NE.
-----------	-----------------	------	-----

**HIERACIUM** (Tourn.) L. Hawkweed.

*Hieracium aurantiacum* L. Devil's Paint-Brush.

Franconia	Farlow	1895	G.
-----------	--------	------	----

Woodstock	Fernald	1915	NE.
-----------	---------	------	-----

Holderness	Bundersen, Lowenstein	1914	NE.
------------	-----------------------	------	-----

Lebanon	SPH	1920	NE.
---------	-----	------	-----





*Hieracium florentinum* All.

Bethlehem	Pease	1924	fl.
-----------	-------	------	-----

Canaan	Pease	1926	fl.
--------	-------	------	-----

*Hieracium paniculatum* L.

Waterville	Cushman	1912	fl.
------------	---------	------	-----

Plymouth	Knowlton	1917	fl.
----------	----------	------	-----

Holderness	Sunderson, Lowenstein	1914	fl.
------------	-----------------------	------	-----

*Hieracium paniculatum* L., forma glandulosum Hoffm. #1.

Warren	Williams	1908	fl.
--------	----------	------	-----

*Hieracium scabrum* Michx.

Franconia	Kennedy	1835	fl.
-----------	---------	------	-----

Plymouth	Knowlton	1915	fl.
----------	----------	------	-----

*Hieracium canadense* Michx.

Franconia	Faxon	1890	fl.
-----------	-------	------	-----

Warren	Williams	1903	fl.
--------	----------	------	-----



## STATISTICAL SUMMARY

FAMILIES	NATIVE			INTRODUCED			TOTAL
	SPECIES	VARIETIES	FORMS	SPECIES	VARIETIES	FORMS	
Polypodiaceae	27	8					35
Osmundaceae	3	3					6
Ophioglossaceae	7						7
Equisetaceae	2	3	1				12
Lycopodiaceae	9	6					15
Psilotaceae	2						2
Isotetaceae	2	2					4
Taxaceae	1						1
Pinaceae	12	1		1			14
Sparacaniaceae	3	1					4
Najadaceae	12						12
Juncaginaceae	1	1					2
Alismaceae	5	1	3				9
Gramineae	93	17	1	12	4		93
Cyperaceae	109	33	1				143
Araceae	3			1			4
Lemnaceae	1						1
Eriocaulaceae	1						1
Xyridaceae	2						2
Pontederiaceae	1						1
Juncaceae	15	6					21
Liliaceae	19		1	2	1		23
Iridaceae	2						2
Orchidaceae	29	3					32



FAMILIES	NATIVE			INTRODUCED			TOTAL
	SPECIES	VARIETIES	FORMS	SPECIES	VARIETIES	FORMS	
Salicaceae	15	2	1	3	1		22
Myricaceae	2	1					3
Uglandaceae	2						2
Betulaceae	10	4					14
Passaceae	5						5
Urticaceae	4			2			6
Cantalaceae	1						1
Loranthaceae	1						1
Aristolochiaceae	1						1
Polygonaceae	5			7			12
Chenopodiaceae	1			3			4
Amaranthaceae				1			1
Illecebraceae	2	1					3
Caryophyllaceae	7	2		12			21
Portulacaceae	1						1
Ceratonophyllaceae	1						1
Nymphaeaceae	4		1				5
Ranunculaceae	21	1		3	3		28
Berberidaceae	1			1			2
Papaveraceae	1			1			2
Fumariaceae	3			1			4
Cruciferae	8	1		17	1		26
Boraginaceae	1						1
Utriculariaceae	1						1
Rosaceae	2						2





FAMILIES	NATIVE			INTRODUCED			TOTAL
	SPECIES	VARIETIES	FORMS	SPECIES	VARIETIES	FORMS	
Crassulaceae				2			2
Saxifragaceae	10	1		1			12
Hamelidaceae	1						1
Rosaceae	42	9	3	9	1		64
Leguminosae	12			8			20
Oxalidaceae	2		1				3
Geraniaceae	1			1			2
Polygalaceae	3						3
Euphorbiaceae	1			4			5
Callitrichaceae	1						1
Eurotaceae	2						2
Anacardiaceae	4						4
Aquifoliaceae	2						2
Ulmaceae	1						1
Staphyleaceae	1						1
Aceraceae	5						5
Umbelliferae				1			1
Rhamnaceae	2						2
Vitaceae	4						4
Urticaceae	1						1
Salvaceae				2			2
Hypericaceae	6						6
Ericaceae	2						2
Violaceae	15	1		2			18
Thymelaeaceae	1						1



FAMILIES	NATIVE			INTRODUCED			TOTAL
	SPECIES	FAMILIES	VERNAL	SPECIES	FAMILIES	VERNAL	
Lythraceae	1			1			2
Onagraceae	11	1					12
Malvaceae	2	1					3
Araliaceae	5						5
Umbelliferae	11			3			14
Roraceae	6						6
Ericaceae	36	9	2				47
Diapensiaceae	1						1
Primulaceae	6			1			7
Oleaceae	2						2
Gentianaceae	4		1				5
Apocynaceae	2		1				3
Asclepiadaceae	3	1					4
Hydrophyllaceae	1						1
Eoraginaceae	5			3			8
Verbenaceae	2						2
Labiatae	10	2		6	3		21
Scollanaceae	1			1			2
Scrophulariaceae	9			10			19
Lentibulariaceae	5						5
Orobanchaceae	3						3
Thymaceae	1						1
Plantaginaceae				2			2
Rubiaceae	10	1		1			12
Caprifoliaceae	11	4		1			16



FAMILIES	UNIQUE			INTERMEDIATE			TOTAL
	SPECIES	VARIETIES	FORMS	SPECIES	VARIETIES	FORMS	
Cucurbitaceae	1						1
Campanulaceae	2						2
Lobeliaceae	3			1			4
Compositae	76	26	4	27	1	1	135
TOTALS	796	151	22	157	12	1	1146
TOTALS PEREE FLORA							
COOS COUNTY N.H.	802	131	34	293	22	4	1297
TOTALS GRAY'S							
MANUAL	3413	766		666	47		4379





TABLE SHOWING THE NUMBER OF SPECIES, VARIETIES,  
AND FORMS COLLECTED IN EACH TOWNSHIP.

Littleton	8
Bethlehem	98
Lisbon	47
Lyman	1
Monroe	4
Franconia	296
Livermore	6
Lincoln	97
Easton	4
Landaff	0
Bath	43
Bartlett Land and Lumber Co.	0
Waterville	75
Raymond Grant	0
Thornton	23
Woodstock	195
Benton	49
Haverhill	75
Ellsworth	0
Warren	162
Piermont	6
Campton	10
Rumney	0



Ventworth	70
Orford	6
Holderness	247
Plymouth	172
Groton	1
Lorchester	4
Lyme	6
Lehland	24
Bridgewater	10
Hebron	4
Bristol	12
Alexandria	2
Orange	1
Wansan	40
Sanover	243
Wrafton	5
Enfield	45
Lebanon	424



## COLLECTORS AND DATES OF VISITS

- 1827 Sakes, W.  
 1843 Tuckerman, T.  
 1845 Lowell, J. A.  
 1846 Lowell, Pickard  
 1852 Boott, W.  
 1853 Merrill  
 1855 Boott  
 1858 Hoar, Thoreau, W. L.  
 1860 Boott  
 1861 Boott  
 1862 Boott  
 1863 Boott  
 1865 Blake  
 1870 Boott  
 1871 Flint, W. F., Faxon, C. and E., Lamson Scribner  
 1872 Boott  
 1873 Rodman  
 1874 Blaupied, Flint, Robinson, J., Willard  
 1876 Hitchcock, C. H., Huntington, J. H., Jesup, W. G.  
 1877 C. and E. Faxon, Loveland, Fringle, C. G.  
 1878 Conant, C. and E. Faxon, Hervey, Lane, Loveland, Jesup,  
 Fringle, Sears, Tuckerman  
 1879 C. and E. Faxon, Lane, Preston  
 1880 Minns





- 1882 Bartow, Fuller, Horner
- 1883 Bartow, C. and E. Faxon, Hitchcock, Jesup, Loveland, Slosson, H. U. E.
- 1884 C. and E. Faxon, Slosson
- 1885 Bartow, C. and E. Faxon, Fuller, Jesup, Kennedy
- 1886 Bartow, C. and E. Faxon, Kennedy
- 1887 C. and E. Faxon, Flint, Kennedy, Loveland, Faggles
- 1888 C. and E. Faxon, Eggleston, Hear, Kennedy, Minns, Tarlton
- 1889 Collins, C. and E. Faxon, Eggleston, Kennedy, Loveland,  
Morse, Slosson
- 1890 Dean, Eggleston, C. and E. Faxon, Fuller, Jesup, Minns,  
Kennedy, Tower, Williams
- 1891 Burbank, Collins, C. and E. Faxon, Jesup, Kennedy, Harret,  
Manning, Morse, Thornton
- 1892 C. and E. Faxon, Henshaw, Jesup, Kennedy, Richards, Sargent
- 1893 C. and E. Faxon, Fuller, Graves, Kennedy, Rich, Tetlors,  
Williams
- 1894 E. Faxon, Hartwell, Jesup, Kennedy, Robinson
- 1895 Farlow, C. and E. Faxon, Grant, Kennedy, Pease, Sargent
- 1896 C. and E. Faxon, Hunnell, Kennedy, Williams
- 1897 Indicott, C. and E. Faxon, Fuller, Kennedy, Prince,  
Terry, Willis
- 1898 Eggleston, C. and E. Faxon, Kennedy, Taylor, Williams
- 1899 Kennedy, Russell, Taylor
- 1900 Chivers, Howe, Kennedy, Pease
- 1901 E. Faxon, Howe, Kennedy, Mathews, Pease, Ware
- 1902 Russell, Chivers, Howe



- 1903 Chivers, Hall, Howe, Pease
- 1904 Alden, Forbes, Kennedy
- 1905 Moore, Mardock, Robinson, Ware
- 1906 Russell
- 1907 C. Faxon, Kennedy, Lorenz, Mathews, Pease, Williams
- 1908 Edmundson, Hbar, Johnson, Stewart, Williams
- 1909 C. Faxon, Targent, Stevens, Stewart
- 1910 C. Faxon, Hope, Kennedy, Know, Loring, Williams
- 1911 Hope, Munnewell, Kennedy
- 1912 Cushman, Merton, Hope, Kennedy, St. John
- 1913 Pease, Wheeler, Williams
- 1914 Gundersen, Haskins, Lowenstein
- 1915 Botany 7., Chivers, Briggs, Fernald, Haskins, Jackson,  
Kennedy, Knowlton, Pease, Smiley, Weatherby
- 1916 Fernald, Hervey, Hope, Knowlton
- 1917 Ahler, Dexter, Fernald, Hervey, Knowlton, Pease, Russell, Shaw
- 1918 Lorenz, Pease, Winslow
- 1919 Knowlton, Pease
- 1920 Blanchard, Eaton, Fernald, Munnewell, Knowlton, Woods
- 1921 Munnewell, Means, Svenson
- 1922 Linder, Pease
- 1923 Fassett, Knowlton, Mathews, Pease, Svenson
- 1924 Goodrich, Pease
- 1925 Knowlton, Poole, Wilson
- 1926 Lyons, Pease
- 1927 Bill





## FLORISTIC CONDITIONS

An adequate but brief description and discussion of the elements making up the flora of an area the size of Grafton County is impossible to make. That certain plant relationships exist dependent upon soil, moisture, temperature, and other factors is a well established fact but the placing of the various plants in their respective groups is a very difficult matter. In the first place different botanists have different standards in separating the various groups. In the second place it is difficult to find plants which are restricted almost entirely to one form of habitat so that only rather general associations can be described. The classification used by Pease (1.) in his work on the flora of Coös County seems to be the best adapted to the conditions found in Grafton County.

The county may be immediately divided into two great classes, (1.) those habitats which are essentially natural and unaffected by the agency of man and (2.) those habitats which have been very definitely modified by man. Each of these classes may be subdivided into several groups.

1.a. Primaeval Evergreen Forest. The primaeval forest which once covered much of the county is now almost entirely destroyed due to the agencies of the lumberman and the pulp manufacturers. A few remnants still remain in the lowlands in inaccessible ravines such as along the Mad River in Waterville but most of the primaeval forest which now remains is found on the higher slopes of the mountains in the form of scrub as yet worthless to the paper manufacturers.

The original soft wood forests were made up largely of *Picea rubra* and *Abies balsamea*. *Tsuga canadensis* was found in commercial





amounts at the lower altitudes and more or less *Pinus strobus* was also present. The white pine was the first tree to be lumbered off and it is now difficult to find specimens of primeval *Pinus strobus*. A magnificent tree of this type may be seen about a mile up the Lost River road from North Woodstock near the farm of E. G. Gordon. The hemlock was also cut from the first for its bark and later to saw into rough boards. The red spruce was used for spars, lumber, and pulp most of it being sent to the paper mills. The balsam fir was at first considered worthless except for Christmas trees and balsam pillows but is now cut in large quantities for pulp.

This region in which *Picea rubra* predominates is known as the Canadian zone. Characteristic plants of the forest floor of this zone are *Thelypteris*, *Phegopteris*, *P. spinulosa* var. *americana*, *Lyconodium lucidulum*, *Clintonia borealis*, *Betula lutea*, *B. papyrifera* var. *cordifolia*, *Sibes lacustre*, *Pyrus americana*, *Oxalis montana*, *Acer spicatum*, *Viola incognita*, *V. renifolia*, *Chiogenes hispidula*, *Linnaea borealis* var. *americana*, and *Solidago macrophylla*.

As one ascends the higher mountains the trees diminish in size and the *Picea rubra* is largely replaced by *Abies balsamea*. This region of "Krummholz" or scrub growth forms the Hudsonian zone of life. Mingled with the *Abies* are found *Betula papyrifera* var. *cordifolia* and *Pyrus americana*. On the floor of the scrub forest are found *Thelypteris spinulosa* var. *americana*, *Clintonia borealis*, *Maianthemum canadense*, *Streptopus roseus*, *Listera cordata*, *Cottis groenlandica*, *Mitella nuda*, *Oxalis montana*, *Cornus canadensis*, *Chiogenes hispidula*, *Pyrola minor*, *Trientalis borealis*, and *Linnaea borealis* var. *americana*; while in





Openings among the scrub one finds *Lycopodium annotinum* var. *pungens*, *Ribes lacustre*, *R. glandulosum*, *Kalmia angustifolia*, *Ledum groenlandicum*, *Rhododendron canadense*, *Vaccinium coccinosum*, *V. canadense*, *V. pennsylvanicum* var. *angustifolium*, *V. uliginosum* var. *alpinum*, *V. vitis-idaea* var. *minus*, *Solidago macrophylla*, and *S. macrophylla* var. *thyrsoides*.

Still higher the scrub becomes lower and at length prostrate, composed chiefly of *Abies balsamea* with some *Picea mariana* and *Salix vva-ursi* and *S. herbacea*. There is no true timber-line in the White Mountains in the sense that the word is used in the West, that is a line at which trees of sufficient size for lumber stop abruptly. Timber-line in the White Mountains is used to distinguish the line at which the scrub ceases to grow. In Grafton County this condition exists on only a few of the higher peaks such as those of the Franconia Range.

I.b. Borders of the larger Rivers. While the woods along the shores of the Connecticut, Amazonasuc, and Penicewasset Rivers are not primeval, in certain places they have been left undisturbed for a sufficient length of time to reproduce fairly faithfully the primeval condition. Among the plants growing in such localities are *Thuja occidentalis*, *Tsuga canadensis*, *Salix nigra* var. *falcata*, *Juglans cinerea*, *Ulmus americana*, and *Acer saccharinum*. In the alluvial sandy and mucky soils one finds *Pteretis nodulosa*, *Samolus regalis* var. *spectabilis*, *Menisium hiemale* var. *affine*, *E. pratense*, *E. scirpoides*, *Taxus canadensis*, *Agrostis perennans*, *Asperella Hystrix* var. *Bigeloviana*, *Lilopyrum erectum*, *Bromus ciliatus*, *B. altissimus*, *E. virginicus*, *Oryzopsis asperifolia*, *Panicum clandestinum*, *Poa alsodes*, *Carex Tuckermanni*, *Luzula saltuensis*, *Smilacina*



stellata, <sup>1</sup>*Smilax herbacea*, *Corylus cornuta*, *Anemone quinquefolia*,  
*Clematis virginiana*, *Renunculus septentrionalis*, *Galibarda repens*,  
*Amorpha monilifera*, *Rhus Toxicodendron*, *Epigaea repens*, *Pyrola*  
*retundifolia* var. *americana*, *P. asarifolia*, *Helianthus decapetalus*,  
 and *H. strumosus*.

On the open alluvial banks the following species may be found  
*Calamagrostis canadensis*, *Muhlenbergia racemosa*, *Eriophorum spicatum*  
 var. *molle*, *Rosa blanda*, *Sparganium angustifolium*, *Vitis novaeangliae*,  
*Vaccinium corymbosum*, *Steironema ciliatum*, *Solidago serotina*,  
*A. squarrosa*, and *Aster paniculatus*.

On the river gravels and islands one may find *Carex torta*, *Salix*  
*cordata*, *S. lucida*, and *Prunus depressa*.

I.e. Aquatic Flora. The aquatic flora because of the difficulty of  
 obtaining and preserving good specimens and because of the rather  
 confusing taxonomic problems connected with identifying them correctly,  
 is usually the most poorly represented group in any local flora. A  
 fairly long list may be compiled of the aquatic plants of Grafton  
 County which includes the following; *Pontederia cordata*, various  
 species of *Sagittaria*, and *Potamogeton*, *Najas flexilis*, *Volvox Torreyi*,  
*Brasenia Schreberi*, *Nymphaea odorata*, *Nymphaeoxanthus microphyllus*,  
*N. variegatus*, various *Myriophyllums*, and *Utricularia vulgaris* var.  
*americana*.

Along the muddy shores one finds *Sagittaria arifolia*, *Alisma*  
*Plantago-aquatica* var. *parviflora*, various *Sagittarias*, *Alisma*  
*borealis*, *Elodea canadensis*, various species of *Elodea*,





*Juncus pelocarpus*, *Polygonum natans*, *Iris longifolia*, *Ludwigia palustris*, *Cicuta bulbifera*, *Lium suave*, *Scutellaria epilobifolia*, and *Utricularia intermedia*.

In pools with firm bottoms are *Eriocaulon septangulare*, and *Lobelia Dortmanna*; while on the shores of such pools one finds *Lyconodium inundatum*, *Synchospora capitellata*, *S. fusca*, *Sanunculus repens*, *Vaccinium macrocarpon*, *Gratiola aurea*, *Utricularia cornuta*, and *Callitriche palustris*.

I.d. Peat Bogs. Floating or quaking bogs are found on some of the pools and ponds of the county. The vascular flora of such bogs is limited to a few species such as *Nyrica Gale* and its var. *subglabra*, *Potentilla palustris*, *Chamaedaphne calyculata*, and varieties of *Bidens cernua*. As the bogs become firmer, drier, and safer to move about upon, the flowering plants also become more numerous including such things as *Carex lasiocarpa*, *C. oligosperma*, *C. rostrata*, and its variety *utriculata*, *C. canescens* var. *disjuncta*, *Scheuchzeria palustris* var. *americana*, *Carex limosa*, *C. Michauxiana*, *C. paupercula*, *Synchospora alba*, *Juncus canadensis*, *Smilacina trifolia*, *Pogonia ophioglossoides*, *Sarracenia purpurea*, and *Hypericum virginicum*.

Further from the shore of the bog the herbaceous plants are largely replaced by such shrubs as *Nyrica Gale* and its var. *subglabra*, *Andromeda glaucophylla*, *Kalmia polifolia*, *Ledum groenlandicum*, and *Rhododendron canadense* beneath which grow *Carex pauciflora*, *C. trisperma*, *Eriophorum spissum*, *S. virginicum*, and *Vaccinium Oxycoccus*.

The transition to the forest type may become even greater by the intrusion of *Larix laricina*, *Picea mariana*, *Pyrus melanocarpa*, *Bosa*

1. The first part of the paper discusses the importance of the study.

2. The second part of the paper discusses the methodology used in the study.

3. The third part of the paper discusses the results of the study.

4. The fourth part of the paper discusses the conclusions of the study.

5. The fifth part of the paper discusses the implications of the study.

6. The sixth part of the paper discusses the limitations of the study.

*nitida*, *Nemopanthus mucronata*, *Kalmia angustifolia*, and *Viburnum cassinoides*.

High peat bogs are found on some of the mountains, Deer Swamp on Mount Moosilauke for example. In bogs of this type we find *Abies balsamea*, *Picea mariana*, *P. rubra*, *Erichorum spissum*, *Scirpus caespitosus* var. *callosus*, *Vaccinium Oxycoccus*, and similar plants.

I.e. Shaded Cliffs and Rocky Talus Slopes. Grafton County has none of those limestone cliffs and talus slopes so beloved by the botanist because of the rare plants found upon them. A few cliffs are found in the county however and on these one may expect to find *Asplenium Trichomanes*, *Cystopteris fragilis*, *Polypodium virginianum*, *Agropyron caninum* var. *tenerum*, *Asprella Hystrix* var. *Sigeloviana*, *Phenopholis pallens*, *Polygonum ciliolode*, *Thenopodium Boscianum*, *Arenaria stricta*, *Lilene antirrhina*, *Aquilegia canadensis*, *Clematis verticillaris*, *Adiantum Furgoes*, *Arabis Drummondii*, *A. hirsuta*, *Saxifraga virginianensis*, *Fragaria vesca* var. *americana*, *Rhus Toxicodendron*, *Delastus scandens*, *Parthenocissus vitacea*, *Vitis noveboracensis*, *Circaea latifolia*, *Tanex quinquefolium*, *Cornus rugosa*, *Satureja vulgaris*, *Salix lanceolatum*, *Viburnum acerifolium*, *Campanula rotundifolia*, *Antennaria Brainerdii*, and *Eupatorium urticaceifolium*.

I.f. Natural Open Spaces. The natural open spaces of the county are confined to the tops of the high mountains. The largest of the areas are the broad flat top of Mount Moosilauke and the Franconia Ridge from Lafayette to Haystack. Here we find a real alpine flora which may be subdivided into several groups. Among the piles of rock which make up the peaks of Lafayette and Lincoln we find *Carex rigida* var.





*Sisgelovii*, *Alnus balsamea*, *Picea mariana*, *Carex brunneascens*, *Empetrum nigrum*, *Lycopodium Selago*, *Agrostis borealis*, *Poa laxa*, *Juncus trifidus*, *Luzula spicata*, *Salix vva-ursi*, *Arenaria groenlandica*, *Potentilla tridentata*, *P. Robbinsiana*, *Cladonia lepponica*, *Frenanthes Boottii*, *P. trifoliata* var. <sup>llo</sup> *nana*, *Solidago Cutleri*, *Carex scirpoides*, *Angelica atropurpurea*, and *Heracleum lanatum*.

In moist meadow-like spots one finds a far greater variety of plants such as *Calamagrostis canadensis* and its varieties *robusta* and *Langsdorfi*, *C. Fickeringii*, *Mierchloë alpina* and *odorata*, *Poa caluensis*, *Carex brunneascens*, *C. canescens*, *C. debilis* var. *strictior*, *C. leostiodactylis* var. *albimontanus*, *C. leptonervia*, *C. rigida* var. *Sisgelovii*, *Luzula parviflora* var. *melanocarpa*, *Veratrum viride*, *Habenaria dilatata*, *Salix herbacea*, *S. vva-ursi*, *Thalictrum polygamum*, *Cardamine bellidifolia* var. *laxa*, *Scilla Peckii*, *Scirpus latifolia* var. *septentrionalis*, *Viola pallens*, *V. palustris*, *Trilobium angustifolium*, *Angelica atropurpurea*, *Heracleum lanatum*, *Moissoleuria procumbens*, *Phyllodoce coerulescens*, *Vaccinium coccineum*, *V. pennsylvanicum* and its variety *angustifolium*, *Lonicera villosa* var. *tonsa*, *Campanula rotundifolia*, *Anaphalis margaritacea* var. *occidentalis*, *Arnica montana* var. *petiolaris*, *Aster foliaceus*, *Frenanthes Boottii*, *P. trifoliata* var. *nana*, *Solidago macrophylla* var. *thyrsoidea*, *Picea mariana*, *Vaccinium uliginosum* var. *alpinum*, *Viburnum pauciflorum*, *Carex scirpoides*, *Juncus trifidus*, *Vaccinium Vitis-idaea* var. *minus*, *Potentilla tridentata*, *Lycopodium Selago*, *Agrostis borealis*, etc.





This concludes the natural habitats and we turn now to those habitats which have been influenced by man.

II.a. Burned Lands. Large areas were unquestionably burned over by forest fires set by lightning before the event of man but by far the most destructive fires have occurred since the settlement of the county by the whiteman and since lumbering operations have been carried on extensively. Much of the western slope of the Franconia Range has been burned over and the country between the Profile Golf Links and Twin Mountain laid waste by fire in fairly recent times. The first tree to appear after a fire is almost always *Prunus pennsylvanica*. Among the plants which soon begin to make their appearance are *Rumex acetosella*, *Corydalis sempervirens*, *Rubus idaeus* var. *strigosus*, *Epilobium angustifolium* (the well known Fireweed), *Aralia hispida*, *Gaultheria procumbens*, *Vaccinium canadense*, *V. pennsylvanicum*, *Anaphalis margaritacea*, *Aster acuminatus*, *Gnaphalium decurrens*, *Solidago canadensis* and other species, *Populus grandidentata*, *P. tremuloides*, *Salix rostrata* and other species, *Betula lutea*, *B. papyrifera*, *Acer spicatum*, and *A. pennsylvanicum*.

In places where the soil formed only a thin coating over the rock beneath it often happens that a forest fire will burn deep down into the humus and expose the bare ledge once more. When this takes place a rather different set of plants is found such as *Woodsia ilvensis*, *Selaginella rupestris*, *Pinus resinosa*, *Agrostis hyemalis*, *Deschampsia flexuosa*, *Muhlenbergia racemosa*, *Carex acnea*, *Polygonum cilinode*, *Paronychia argyrocoma* var. *albimontana*, *Arenaria groenlandica*



var. glabra, *Gorydalis sempervirens*, *Amelanchies stolonifera*, *Potentilla tridentata*, *Pyrus floribunda*, *Eupetrum atropurpureum*, *Aralia hispida*, *Arctostaphylos Uva-ursi* var. *coactilis*, *Kalmia angustifolia*, *Rhododendron canadense*, *Vaccinium canadense*, *V. pennsylvanicum*, *V. Vitis-idaea* var. *minus*, *Melampyrum lineare*, and *Solidago Pandii*.

II.b. Recent Cuttings. The flora of a tract which has been recently cut over resembles in some ways that of a burned area but is slightly different including *Prunus pennsylvanica*, *Rubus idaeus* varieties *strigosus* and *canadensis*, *Sambucus racemosa*, *Aster acuminata*, *Avena sativa*, *Calamagrostis*, *Dactylis glomerata*, *Carex crinita* and its var. *gynandra*, *Leum macrophyllum*, *Melilotus officinalis*, *Trifolium agrarium*, *Zizia aurea*, *Galeopsis Tetrahit*, *Prunella vulgaris* var. *lanceolata*, and *Scrophularia lanceolata*.

II.c. Dryish Second Growth Woods. The second growth which springs up is almost always predominantly of hard wood types. Here we find such trees as *Populus grandidentata*, *P. tremuloides*, *Betula papyrifera*, *B. populifolia*, *Fagus grandifolia*, *Acer spicatum*, and *A. saccharum* with some *Abies balsamea* and *Picea rubra* scattered thru it. The underbrush is made up of such plants as *Lycopodium annotinum* and its variety *acrifolium*, *L. clavatum*, *L. obscurum* and its var. *dendroideum*, *L. complanatum* and its var. *flabelliforme*, *Carex arctata*, *C. novae-angliae*, *Uvularia sessilifolia*, *Viola septentrionalis*, *Aralia nudicaulis*, *Chimaphila umbellata* var. *cisatlantica*, *Gaultheria procumbens*, *Pyrola chlorantha* var. *paucifolia*, *Pyrola elliptica*, *Apocynum androsaemifolium*, *Diervilla*





*Lonicera*, *Antennaria canadensis*, *A. neodioica*, *Aster cordifolius*,  
*Hieracium paniculatum*, *H. scabrum*, *Lactuca canadensis* and varieties,  
*Solidago arguta*, *S. caesia*, and *S. juncea*.

Along the edges of old pastures the following species may be added  
*Lyconodium tristachyum*, *Agropyron caninum* var. *tenerum*, *Dryopsis*  
*asperifolia*, *Panicum boreale*, *P. xanthophyllum*, *Carex communis*, *Lilium*  
*philadelphicum*, and *Myrica asplenifolia*,

H.d. Low Swampy Second-Growth Woods on Poor Soil. The trees which  
dominate in second-growth in swampy ground are *Acer pennsylvanicum*,  
*A. rubrum*, *A. spicatum*, *A. saccharum*, and *Fraxinus nigra*. Beneath these  
one finds *Athyrium angustum*, *Thelypteris lryopteris*, *T. spinulosa* var.  
*intermedia*, *T. noveboracensis*, *T. Phegopteris*, *Semunda Claytoniana*,  
*Equisetum sylvaticum* var. *pauciramosus* and its form *multiramosus*,  
*Bromus ciliatus*, *Cinna latifolia*, *Eleocharis melicaria*, *E. striata*, *Carex*  
*projecta*, *E. crinita* and its varieties, *E. brunneescens*, *E. bromoides*,  
*E. Howeyana*, *E. leptoneuria*, *E. arctata*, *E. scabrata*, *E. intumescens*,  
*Arisaema triphyllum*, *Clintonia borealis*, *Maianthemum canadense*, *Medeola*  
*virginica*, *Uvularia sessilifolia*, *Trillium erectum*, *T. undulatum*,  
*Corallorrhiza maculata*, *C. trifida*, *Cyrtopodium acaule*, *Habenaria*  
*hyperborea*, *H. dilatata*, *H. orbiculata*, *H. macrophylla*, *H. fiebriata*,  
*H. viridis* var. *bracteata*, *Coptis groenlandica*, *Thryosolenium*  
*americanum*, *Tiarella cordifolia*, *Hamamelis virginiana*, *Pyrus americana*,  
*P. dumosa*, *Rubus pubescens*, *Ilex verticillata*, *Wernanthus mucronata*,  
*Viola incognita*, *V. rotundifolia*, *Circaea alpina*, *Epilobium glandulosum*  
var. *adenocaulon*, *Osmorrhiza Claytoni*, *Cornus alternifolia*, *C. canadensis*,





*Monotropa uniflora*, *Trientalis borealis*, *Lycopus americanus*, *Scutellaria lateriflora*, *Galium asprellum*, *G. triflorum*, *Mitchella repens*, *Lonicera canadensis*, *Viburnum alnifolium*, *Aster macrophyllus*, *A. cordifolius*, *A. puniceus*, *A. acuminatus*, and *Solidago latifolia*.

II.e: Old Moist Upland-Second-Growth Second Growth. In the uplands where *Acer saccharum* is the predominating tree the following woody plants may be added to the preceding list *Betula lutea*, *B. papyrifera* and its var. *cordifolia*, *Fagus grandifolia*, *Fraxinus americana*, *Tilia americana*, etc, and to the smaller plants *Adiantum pedatum*, *Thelypteris Goldiana*, *Botrychium angustisegmentum*, *B. matricariaefolium*, *B. virginianum*, *Taxus canadensis*, *Carex rosea* var. *radiata*, *C. cephaloidea*, *C. albicans*, *C. plantaginea*, *C. platyphylla*, *Allium tricoccum*, *Erythronium americanum*, *Polygonatum biflorum*, *Laportea canadensis*, *Urtica lyallii*, *Claytonia caroliniana*, *Actaea rubra*, *A. alba*, *Ranunculus abortivus*, *R. recurvatus*, *Caulophyllum thalictroides*, *Licentia Cullaria*, *Pentaria diphylla*, *Ribes triste* var. *albinervium*, *Agrimonia gryposepala*, *A. striata*, *Viola Selkirkii*, *V. eriocarpa* var. *leiocarpa*, *V. renifolia*, *Dirca palustris*, *Circaea canadensis*, *Aralia racemosa*, *Panax trifolium*, *Osmorhiza longistylus*, *Lonicula marilandica*, *Cynoglossum boreale*, *Epifagus virginiana*, and *Eupatorium urticaefolium*.

If the woods are also fairly rocky the following species may also be found *Polystichum acrostichoides*, *P. Braunii* var. *Purshii*, *Thelypteris marginalis*, *Asperella Hystrix* var. *Pigeloviana*, *Carex pedunculata*, *C. longiostris*, *Hepatica americana*, and *Rubus odoratus*.





II.f. Open Meadows and Swales. The meadows and swales of the county contain a large variety of plants among which may be expected such things as *Onoclea sensibilis*, *Thelypteris cristata*, *T. palustris*, *Sagittaria cinnamomea*, *Calamagrostis canadensis*, *Glyceria canadensis*, *S. grandis*, *Muhlenbergia foliosa*, *Carex canescens* and its varieties *disjuncta* and *subfoliacea*, *C. crinita*, and its variety *gynandra*, *C. debilis* var. *Hodgei*, *C. gracillima*, *C. lenticularis*, *C. leptalea*, *C. lurida*, *C. stipata*, *C. stricta*, *C. vecicaria*, var. *lejune*, *C. vulpinoidea*, *Eriophorum viridi-carinatum*, *Scirpus atrocinctus* and its var. *georgianus*, *S. rubrotinctus*, *Luzula campestris* var. *multiflora*, *Lilium canadense*, *Veratrum viride*, *Iris versicolor*, *Eleocharis angustifolia*, *Habenaria fimbriata*, *H. psycodes*, *Salix cordata*, *S. discolor*, *S. lucida*, *S. sericea*, *Polygonum sagittatum*, *Arenaria lateriflora*, *Caltha palustris*, *Thalictrum polygamum*, *Fragaria virginiana* and its var. *terrac-novae*, *Rumex rivale*, *R. strictum*, *Rubus canadensis* and its relatives, *Viola cucullata*, *V. pallens*, *Trilobium densum*, *T. glandulosum* var. *adenocaulon*, *T. molle*, *Geranium lanatum*, *Hydrocotyle americana*, *Zizia aurea*, *Lysimachia terrestris*, *Gentiana arvensis* and its varieties, *Chelone glabra*, *Veronica americana*, *V. scutellata*, *Galium asprellum*, *G. Claytoni*, *G. palustre*, *Campanula acarinoides*, *Aster paniculatus*, *A. paniculatus*, *A. umbellatus*, *Trigonotis pallidus*, *T. pulchellus*, *Lupatorium maculatum*, and *Senecio Robbinsii*.

II.g. Dry Pastures. The dry pastures also contain a large variety of species but of a rather different sort such as *Lemanea punctilobula*, *Botrychium dissectum*, *B. simplex*, *B. ternatum* var. *intermedium*, *Lycopodium clavatum* and its var. *megastachyon*, *L. complanatum* var. *flabelliforme*, *Juniperus communis* var. *depressa*, *Santhonia spicata*.



varieties of *Panicum Lindheimeri*, *Poa pratensis*, *Carex umbellata*, *Juncus Greenii*, *Spiranthes gracilis*, *S. Romanzoffiana*, *Pubus alleghaniensis*, *P. canadensis*, *P. idaeus* var. *strigosus*, *Spiraea latifolia*, *Lechea intermedia*, *Viola septentrionalis*, *Oenothera perennis*, *Vaccinium canadensis*, *V. pennsylvanicum*, *Frunella vulgaris* var. *lanceolata*, *Verbascum Thapsus*, *Veronica serpyllifolia*, *Houstonia caerulea*, *Lobellia inflata*, *L. spicata*, *Anaphalis margaritacea*, *Antennaria neglecta*, *A. petaloidea*, *Cirsium arvense*, *C. lanceolatum*, *Gnaphalium decurrens*, *Hieracium aurantiacum*, *H. florentinum*, *Solidago canadensis*, *S. graminifolia*, *S. nemoralis*, *S. rugosa*, and *Paraxacum laevigatum*.

If the pasture is more or less boggy one may expect *Carex flava*, *C. scoparia*, *Juncus effusus* and its varieties, *Liparis loeselii*, *Salix rostrata*, *Hypericum canadense*, *H. mutilum*, *Kalmia angustifolia*, and *Rhododendron canadense*.

When pastures are not used and are allowed to grow up, as many are today, the herbaceous plants soon give way to *Abies balsamea*, *Picea canadensis*, *P. rubra*, and *Pinus Strobus*.

II.h. <sup>v</sup>Adventive Weeds of Cultivated Fields, Roads, and Railroads. The gardens and fields of Grafton County are full of the ordinary weeds which are common over much of the United States. Among these one may include *Agropyron repens*, *Rumex acetosella*, *Chenopodium Botrys*, *C. hybridum*, *C. lanceolatum*, *Amaranthus retroflexus*, *Epergula arvensis*, *Stellaria graminea*, *Agrostema Githago*, *Manunculus repens* and its varieties,





*Chelidonium majus*, *Verbascum Thapsus*, *Plantago major*, *Achillea Millefolium*,  
*Chrysanthemum Leucanthemum*, *Tanacetum vulgare*, *Taschilera Farfara*,  
*Arctium Lappa*, *Cirsium arvense*, *Thlasium latifolium*, *Taraxacum officinale*,  
*Lonchus arvensis*, *L. asper*, *Hieracium aurantiacum*, and *H. florentinum*.

The introduced flora of the roadsides was probably once much more abundant than it is at the present day. The horse transportation of the past century spread many weeds broadcast over much of the country, and the dirt roads offered a favorable place for these weeds to establish themselves. With the passing of the horse and the advent of oiled and macadam roads the spread of weeds has probably been greatly reduced.

Numerous plants are spread along the right of way of the railroads by the trains. The classic example of this type of dispersal is *Lepomis officinalis* which may often be found for miles along a railroad track. Other plants which are probably spread in a similar way are *Eragrostis villosa*, *Carex Wughtonii*, *Cyperus filiculmis* var. *macilentus*, *Stenophyllus capillaris*, *Polygonella articulata*, *Scirgularia rubra*, *Gnaphalium multiflorum*, *Euphorbia corollata*, *E. hirsuta*, *Viola fimbriolata*, etc.



## CONCLUSION

I. Statistical Summary. The preceding table shows that the total number of species, varieties, and forms as yet collected from Grafton County is 1145. This is only 152 less than the total of 1297 which Pease records from Coös County after collecting there extensively for over twenty years. This seems to indicate that the Grafton County flora has been surprisingly well covered even though no special effort has been made to work up the flora of that region. (1.)

The following families are represented by more than 25 species, varieties and forms.

Cyperaceae	143
Compositae	135
Gramineae	93
Rosaceae	34
Ericaceae	47
Polypodiaceae	35
Orchidaceae	32
Ranunculaceae	28
Cruciferae	26

Dividing these figures by 1145, the total flora, gives one the percentage of the total flora represented by each family. The percentage of the same families as they are represented in Gray's Manual is shown in the second column. (2.)

1. Pease 1924 Proc. Bos. Soc. Nat. Hist. 37 3 p.130

2. Robinson and Fernald 1907 Gray's Manual p. 23-27.





	Percentage of the Grafton flora	Percentage of the Manual flora
Cyperaceae	.124	.095
Compositae	.117	.134
Gramineae	.081	.067
Rosaceae	.073	.059
Ericaceae	.041	.019
Polypodiaceae	.030	.016
Orchidaceae	.027	.015
Ranunculaceae	.024	.027
Cruciferae	.022	.024

A comparison of the two sets of figures shows that the Cyperaceae, Rosaceae, Ericaceae, Polypodiaceae, and the Orchidaceae are rather over-represented in our county as compared with the Manual range as a whole.

In the following families with a total representation of more than three the number of introduced forms exceeds the number of native forms.

	Native	Introduced
Polygonaceae	5	7
Chenopodiaceae	1	3
Caryophyllaceae	9	12
Cruciferae	9	18
Euphorbiaceae	1	4
Scrophulariaceae	9	10





Families with a total of more than 10, all of which are native are shown in the next list.

Polypodiaceae	35	Cyperaceae	143
Equisetaceae	11	Juncaceae	21
Lycopodiaceae	15	Orchidaceae	32
Najadaceae	12	Betulaceae	14
	Ericaceae	47	

II. Collecting Done. While the total of 1145 species, varieties, and forms gives a fairly good idea of the flora of the county as a whole, a glance at the table showing the number of species, varieties, and forms collected from each town shows that very little can be deduced as to the distribution of plants within the county. Lebanon has been the most extensively collected township but even there the total of 424 is less than half of the known flora of the county. Over 200 forms have been collected from Franconia, Holderness, and Manover and Woodstock, Plymouth, and Warren have yielded up over 100. Only one species has been taken from Lyman, Groton, and Orange while the floras of Bath, Bartlett Land and Lumber Company, Raymond Grant, Ellsworth, Rumney, and Grafton are not represented at all. Every township should have a known and collected flora of at least 1000 species, varieties, and forms.

Let us take the matter up from another angle. It has often been stated that the collection of plants in an herbarium represents the rare plants of the area. Most collectors have a tendency to collect and preserve the rare and striking species they find while the familiar



everyday plants are too often ignored. Hence a study of the plants in the herbarium where their plants are deposited is apt to give a rather one-sided picture of the flora of the area. Such seems to be the case in Grafton County. For example Pease has a list of 32 members of the Orchidaceae from Coös County (1.) and Grafton County also has a total of 32 of this family, but Pease also has a total of 31 in the family Polygonaceae while the total from Grafton County is but 12. Surely there must be at least as large a number of this family of weeds in Grafton County as in Coös. The reason for the different totals is simple. The orchids are rare and showy and are collected by any botanist who sees one, while the polygonums are weeds in every yard and garden and are so common that the collector very seldom takes one. *Subularia aquatica* is a rather rare aquatic plant in northern New England and has been collected from Grafton County 13 times from three different towns while *Capsella Bursa-pastoris*, the next genus to it in the Manual and a common weed, has never been collected in the county, yet it is safe to say that there are 100,000 plants of *Capsella* to every one of *Subularia* in the county.

The native flora is much better represented in Grafton County than is the introduced flora. Grafton County shows a total of 969 native plants as compared with a total of 973 in Pease but the total of the introduced plants from the county is only 176 as compared with 324 in Pease. This is just another demonstration of the fact that the botanist unless he is making a special study of an area will collect weeds only





now and then.

III. Collecting to be Done. The flora of the entire county needs to be studied with a view to increase the number of species known from the area. Special work should be done to find and collect as many as possible of the plants introduced into the county. The botany of each township needs a thorough investigation so that some adequate idea may be evolved of the distribution of the various species through the county as a whole.





## BIBLIOGRAPHY OF THE REVISIONS TO GRAY'S MANUAL

- Bicknell, F.P. 1908 The Ferns and Flowering plants of Nantucket  
Bulletin of the Torrey Botanical Club Vol.35. p.493.
- Blake, S.F. 1915 Some Neglected Names in Walter's Flora Caroliniana  
Rhodora Vol.17. p.129-137.
- 1917 The Varieties of *Chimaphila Umbellata*  
Rhodora Vol.19. p.241.
- 1918 Notes on the Clayton Herbarium  
Rhodora Vol.20. p.21- 28, 53, 71.
- 1924 Notes on American Lespedezas  
Rhodora Vol.26. p.25-34.
- Blanchard, A.H. 1909 Some Points of Nomenclature in *Trientalis* and *Rubus*  
Rhodora Vol.11. p.236-237.
- Brainerd, E. 1913 Is *Viola Arenaria* DC. Indigenous to North America?  
Rhodora Vol.15. p.106- 111.
- Brainerd, E. and Peitersen, O.K. 1920 Blackberries of New England-  
Their Classification  
Vermont Agricultural Experiment Station Bulletin #217.
- Britton, N.L. and Brown, A. 1913 Illustrated Flora of the Northern  
States and Canada Edition 2.  
Charles Scribner New York Vol.1. p.322  
Vol.3. p.183, 184.
- Batters, F.K. 1917 Taxonomic and Geographical Studies in  
North American Ferns  
Rhodora Vol.19. p.169-216



Colville, F.V. and Britton, M.L. 1908 Grossulariaceae, Family 13 in North  
American Flora

New York Botanical Garden Vol.22 Part 3. p.225.

Lewy, C. 1846 Caricography

American Journal of Science Second Series p.247.

Farwell, O.A. 1904 Contributions to the Botany of Michigan #3.

Annual Report Michigan Academy Science Vol.6. p.206.

1919 Necessary Changes in Botanical Nomenclature

Rhodora Vol.21. p.101- 103.

Fassett, N.C. 1924 A Study of the Genus Zizania

Rhodora Vol.26. p.153-160.

Fernald, M.L. 1909 A New Variety of Abies Balsamea

Rhodora Vol.11. p.201-203.

The North American Species of Barbarea

Rhodora Vol.11. p.134-141.

1913 Alnus crispa (Ait.) Pursh, Var. mollis Fernald

new combination

Rhodora Vol.15. p.44.

Carex tinctoria a Valid Species

Rhodora Vol.15. p.186-187.

The Indigenous Varieties of Prunella vulgaris

in North America

Rhodora Vol.15. p.183-184.

1914 The American Variations of Stellaria borealis

Rhodora Vol.16. p.144-151.



1914 *Carex Leptonervia* a Valid Species

Rhodora Vol.16. p.214.

The Glabrous Leaved Sweet Gale

Rhodora Vol.16. p.167.

The Narrow Leaved Variety of *Salix Pyrifolia*

Rhodora Vol.16. p.116.

1915 Flora of the Vicinity of New York, a Contribution  
to Plant Geography by Norman Taylor

Footnote in Book Review by Prof. Fernald

Rhodora Vol.17. p.68.

The Identity of *Circaea Latifolia* and the Asiatic

*C. Canadensis*

Rhodora Vol.17. p.222-224.

Some New or Unrecorded Compositae Chiefly of

Northeastern America

Rhodora Vol.17. p.13-14, 20.

1916 A Pubescent Form of *Salix Myrsinifolia*

Rhodora Vol.18. p.52.

1917 The Boreal and Subalpine Variety of *Spiraea Latifolia*

Rhodora Vol.19. p.255.

*Gentiana Clauseri* a Valid Species

Rhodora Vol.19. p.147-149.

The Identity of *Circaea Canadensis* and *C. Intermedia*

Rhodora Vol.19. p.85-88.





- 1917 New or Critical Species or Varieties of *Panunculus*  
*Rhodora* Vol.19. p.135-136.
- A New *Vitis* From New England  
*Rhodora* Vol.19. p.144-147.
- Some New or Critical Plants of Eastern North America  
*Rhodora* Vol.19. p.152-155.
- The Specific Characters of *Hepatica Americana*  
*Rhodora* Vol.19. p.45.
- 1918 The Diagnostic Characters of *Vallisneria Americana*  
*Rhodora* Vol.20. p.108-110.
- Rosa blanda* and its Allies of Northern Maine and  
 Adjacent Canada  
*Rhodora* Vol.20. p.90-96.
- Some American *Epilobiums* of the Section *Lysimachion*  
 III. *E. glandulosum* and *E. adenocaulon*  
*Rhodora* Vol.20. p.22-30.
- 1919 *Helianthemum Picknellii* and *H. Provincum*  
*Rhodora* Vol.21. p.36-37.
- Nymphozanthus* the Correct Name for the Cow Lilies  
*Rhodora* Vol.21. p.185-187.
- Panicum* { *Capillaris* in New England  
*Rhodora* Vol.21. p.110-114.
- Rubus Ideus* and Some of its Variations in North  
 America  
*Rhodora* Vol.21. p.89-98.



1919 The Specific Identity of *Arenaria Groenlandica*and *A. Glabra**Rhodora* Vol.21. p.20.The Variations of *Sanunculus Sepens**Rhodora* Vol.21. p.169.1920 The American Varieties of *Pyrola Chloantha**Rhodora* Vol.22. p.49-53.*Oxalis Montana**Rhodora* Vol.22. p.143.*Pyrola rotundifolia* and *P. americana**Rhodora* Vol.22. p.121-123.

## 1921 The Gray Herbarium Expedition to Nova Scotia, 1920

*Rhodora* Vol.23.*Antennaria neodioica* Greene, var. *chlorophylla* Fernald p.296.*Arisima Stewardsonii* p.136.*Botrychium dissectum*, form *obliquum* p.151.*Carex tenera* p.235.*Panicum depauperatum*, var. *psilophyllum* p.103*Panicum Lindheimeri* p.223-228.*Polygonum scabrum* p.259.*Pyrus dumosa* p.266.*Scirpus atrovirens*, var. *georgianus* p.134.*Senecio pauperculus*, var. *Balsamitae* p.299*Viola eriocarpa*, var. *leiocarpa* p.27-276.



1921 North American Representatives of *Scirpus Caespitosus*

Rhodora Vol.23. p.22-25.

*Scutellaria Scillobiifolia*

Rhodora Vol.23. p.35-36.

1922 The Northern Variety of *Senecio Hystrix*

Rhodora Vol.24. p.229-231.

Notes on the Flora of Western Nova Scotia, 1921

Rhodora Vol.24. p.170-173, 207.

Notes on *Sparganium*

Rhodora Vol.24. p.26-34.

*Polypodium Virginianum* and *P. Vulgare*

Rhodora Vol.24. p.125-142.

1923 The American Variety of *Scheuchzeria Palustris*

Rhodora Vol.25. p.177-179.

The Identities of the Sand Cherries of Eastern

America

Rhodora Vol.25. p.69-74.

*Lycopodium Sabinaefolium* and *L. Hitchense*

Rhodora Vol.25. p.166-167.

Nomenclatorial Transfers in *Mariscus*

Rhodora Vol.25. p.49-54.

The Southern Variety of *Thelypteris Fragrans*

Rhodora Vol.25. p.1-4.

*Vaccinium Uliginosum* and Its Variety *Alpinum*

Rhodora Vol.25. p.23.





- 1925 The American Representatives of *Lonicera Caerulea*

Rhodora Vol.27. p.1.

- The Identity of *Eriophorum Callitrix*

Rhodora Vol.27. p.208.

- Sarganium Multipedunculatum* in Eastern America

Rhodora Vol.27. p.190-193.

- 1926 Two Summers of Botanizing in Newfoundland

Rhodora Vol.28. p.172,191.

- 1927 *Muhlenbergia Uniflora*

Rhodora Vol.29. p.10.

- 1928 The American Representatives of *Asplenium Ruta-Muraria*

Rhodora Vol.30. p.37-43.

- The Eastern American Variety of *Polystichum Braunii*

Rhodora Vol.30. p.28-30.

- 1929 *Coptis Trifolia* and Its Eastern American Representatives

Rhodora Vol.31. p.142.

- Menyanthes Trifoliata*, Variety Minor

Rhodora Vol.31. p.125-128.

- 1930 The British Representatives of *Juncus Tenuis*

Journal of Botany, British and Foreign 1936. p.364.

- The Complex of *Bromus Ciliatus*

Rhodora Vol.32. p.62-71.

- Potamogeton Alpinus* and *P. Microstachys*

Rhodora Vol.32. 1.76-83.



1930 Some Varieties of the Amphibian Species of Desunda  
Rhodora Vol.32. p.71-76.

1931 Potentilla Canadensis and P. Simplex  
Rhodora Vol.33. p.130

Fernald, M.L. and Brackett, A.E. 1929 The Representatives of Eleocharis  
Palustris in North America  
Rhodora Vol.31. p.57-77.

Fernald, M.L. and Macbride, J.F. 1914 The North American Variations of  
Arctostaphylos Uva-ursi  
Rhodora Vol.16. p.211-213.

Fernald, M.L. and Weatherby, C.L. 1921 Equisetum Fluviale or E. Limosum  
Rhodora Vol.23. p.3-47.  
1922 Varieties of Carex Canadensis  
Rhodora Vol.24. p.47-52.

Fernald, M.L. and Legend, E.W. 1910 The North American Variations of  
Junonia Effusus  
Rhodora Vol.12. p.81.

A Summer's Botanizing in Eastern  
Maine and Western New Brunswick  
II. Technical Notes on Some of the Plants Collected  
Rhodora Vol.12. p.135-146.

1911 A Boreal Variety of Fragaria Virginiana  
Rhodora Vol.13. p.106.

1912 A Blunt-Spined Variety of Carex Scariosa  
Rhodora Vol.14. p.115-116.

1913 Calamagrostis Pickeringii Gray, Var. Lebilis (Kearney)  
New Combination  
Rhodora Vol.15. p.135



1913 The Genus *Eupetrum* in North America

*Rhodora* Vol.15. p.74.

\* Northern Variety of *Erigeron Ramosus*

*Rhodora* Vol.15. p.60.

1918 Some New Species and Varieties of *Poa* From  
Eastern North America

*Rhodora* Vol.21. p.122-127.

Gray, Asa 1843 A Manual of the Botany of the Northern United States

James Munroe and Company Boston and Cambridge p.423.

Harger, A.B. 1911 A New *Arabis*

*Rhodora* Vol.13. p.37-39.

Haynie, W.T. 1929 Two New Plant Records for the Chicago Region

*Rhodora* Vol.31. p.99.

Hitchcock, A.S. 1923 New Species of Grasses from the United States

Proceedings Biological Society Washington Vol.41. p.157.

Hoffmann, R. 1917 A Glandular Form of *Hieracium paniculatum* L.

*Rhodora* Vol.19. p.37.

Hubbard, P.T. 1912 Nomenclatorial Changes Required by Some Gramineae  
of the Seventh Edition of Gray's Manual

*Rhodora* Vol.14. p.186-187.

1915 A Taxonomic Study of *Setaria Italica* and Its  
Intermediate Allies

American Journal of Botany Vol.2. p.169-193.

1916 Notes on the Gramineae

*Rhodora* Vol.18. p.231-236.





1917 *Andropogon scoparius* in the United States and Canada  
Rhodora Vol.19. p.103.

Inman, O.L. 1912 *Calamagrostis Canadensis* and some of its Related Species  
Rhodora Vol.24. p.142-144.

Johnston, I.M. 1923 II. Studies in the Boreaginaceae  
I. Restoration of the Genus *Hackelia*  
Contributions of the Gray Herbarium 69. p.43-80.

Koehne, K. 1899 Vier Neue Holzpflanzen  
Gartenflora Vol.48. p.338.

Kükenthal, G. 1909 Cyperaceae-Caricoidae  
Das Pflanzenreich IV 20 p.203,220  
Wilhelm Engelmann Leipzig

Long, Bayard 1919 The Specific Characters of *Eragrostis Peregrina*  
and its Two Allies  
Rhodora Vol.21. p.134-140

Lorenz, A. 1919 *Hieracium stricta* in the White Mountains  
Rhodora Vol.21. p.22-23.

Louis Marie, Fether 1928 The Genus *Trisetum* in America  
Rhodora Vol.30. p.209-223, 237-245.

Macbride, J.E. 1915 A White Flowered *Spiraea tomentosa*  
Rhodora Vol.17. p.142.

Mackenzie, W.K. 1893 Notes on *Carex* VIII.  
Bulletin Torrey Botanical Club Vol.20. p.426.  
1915 *Carex stricta* and its Allies  
Bulletin Torrey Botanical Club Vol.42. p.410.



- 1907 The Scientific Name of Our Common Huckleberry  
Torreya Vol.17. p.60.
- 1908 Notes on Carex  
Bulletin Torrey Botanical Club Vol.35. p.264.
- 1914 A New Northern Sedge  
Torreya Vol.14. p.155-159.
- 1923 Notes on Carex  
Bulletin Torrey Botanical Club Vol.49. p.370.
- 1924 Notes on Carex VIII. 1. The identity of *C. bodenowii*  
J. Gay and E. Acosta G.  
Bulletin Torrey Botanical Club Vol.50. p.343.
- Sease, A.L. and Moore, L.L. 1912 Agropyron Caninum and Its North  
American allies  
Rhodora Vol.12. p.71.
- Penland, C.W. 1924 Notes on North American Costellarias  
Rhodora Vol.26. p.66.
- Pennell, F.W. 1919 A Brief Conspectus of the Species of *Kneiffia*, with  
the Characterizations of a New Allied Genus  
Bulletin Torrey Botanical Club Vol.46. p.362-373.
- 1921 "Veronica" in North and South America  
Rhodora Vol.23. p.10.
- 1922 Some Overlooked Scrophulariaceae of Rafinesque  
Torreya Vol.22. p.31.
- Rehder, A. 1910 A New Hybrid Cornus (*C. rugosa* X *stolonifera*)  
Rhodora Vol.12. p.121-124.





1920 New Species, Varieties and Combinations From the Herbarium  
and the Collections of the Arnold Arboretum

(Lexifragaceae continued)

Journal Arnold Arboretum Vol.1. p.254-263.

Robinson, E.L. and Fernald, M.L. 1909 Amendments of the Seventh Edition  
of Gray's Manual

Rhodora Vol.11. p.33-61.

St. John, H. 1920 The Genus Rhodod in New England

Rhodora Vol.22. p.17-29.

Sargent, C.S. 1916 The Name of the Red Oak

Rhodora Vol.13. p.46-48.

Schneider, C. 1921 Notes on American Willows II.

Journal Arnold Arboretum Vol.2. p.5.

Schweinfurth, C. 1925 Everipedium Beginae in New Hampshire

Rhodora Vol.27. p.107.

Stanley, P.G. 1916 North American Flora, Order Chenopodiales

New York Botanical Garden Vol.2 1. Part.1. p.23.

Stanford, E.F. 1925 The Amphibious Group of Polygonum, Subgenus Persicaria

Rhodora Vol.27. p.156.

Stevenson, H.K. 1923 Plant Notes From Squam Lake, New Hampshire

Rhodora Vol.25. p.123-125.

1929 Monographic Studies in the Genus Eleocharis

Rhodora Vol.31. p.215.

Swallen, J.P. 1928 The Grass Genus Schizachne

Journal Washington Academy Science Vol.18. p.204.





- Wiegand, E.M. 1912 The Genus *Amelanchier* in Eastern North America  
*Rhodora* Vol.14. p.117-161
- 1918 Some Species and Varieties of *Alnus* in Eastern  
 North America  
*Rhodora* Vol.20. p.81-90.
- 1920 *Eunatorium Purpureum* and Its Allies  
*Rhodora* Vol.22. p.57-70.  
 Variations in *Lactuca Canadensis*  
*Rhodora* Vol.22. p.9-11.
- 1922 *Carex laxiflora* and Its Relatives.  
*Rhodora* Vol.24. p.189-201.
- 1924 Some Changes in Nomenclature  
*Rhodora* Vol.26. p.3,4.
- 1925 *Oxalis Corniculata* and Its Relatives in North America  
*Rhodora* Vol.27. p.113-124, 133-139.
- 1928 *Aster lateriflorus* and Some of Its Relatives  
*Rhodora* Vol.30. p.174.
- Williams, E.F. 1913 A New Form of *Lilium Philadelphicum*  
*Rhodora* Vol.15. p.218.



## GENERAL BIBLIOGRAPHY

- Chittenden, A. F. 1905 Forest Conditions in New Hampshire  
U. S. Dept. Agr., Bureau Forestry Bul. 255.
- Hitchcock, C. H. 1874 Geology of New Hampshire Vol. I.  
Atlas to accompany the Geology of N. H.
- Jesup, H. H. 1891 Flora and Fauna Within Thirty Miles of Concord, N. H.
- National Survey Company 1915 Official Map of Vermont and New Hampshire
- Peece, A. C. 1924 Vascular Flora of Coös County, New Hampshire  
Proc. Soc. Soc. Nat. Hist. 37 13.







WIDE OPEN  
BRYAN  
1900









**DO NOT REMOVE**

---

**CHARGE SLIP FROM THIS POCKET  
IF SLIP IS LOST PLEASE RETURN BOOK  
DIRECTLY TO A CIRCULATION STAFF MEMBER.**



**Boston University Libraries  
771 Commonwealth Avenue  
Boston, Massachusetts 02215**



